ECONOMETRICA, INC.

# Final Report

## Evaluation of the USDA Pilot Project for Procurement of Unprocessed Fruits and Vegetables

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Ashley Chaifetz, Project Officer
3101 Park Center Drive
Alexandria, VA 22302

**Prepared by:**

Authors: Kristen Corey, Kim Standing, Jill Simmerman, and Cynthia Khan

**Econometrica, Inc.**

7475 Wisconsin Avenue, Suite 1000
Bethesda, MD 20814
Phone: (301) 657-9883 | Fax: (301) 657-3140 | www.EconometricaInc.com

**Westat**

1600 Research Boulevard
Rockville, MD 20850

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# Acknowledgments

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# Executive Summary

## ES.1. Introduction

Section 4202 of the Agricultural Act of 2014 (P.L. 113-79), otherwise known as the 2014 Farm Bill, authorized the U.S. Department of Agriculture (USDA) to initiate the Pilot Project for Procurement of Unprocessed Fruits and Vegetables (the Pilot), a program designed to provide schools with additional flexibility to procure unprocessed fruits and vegetables.[1] Under the Pilot, participating States may obtain eligible items with existing USDA Foods entitlement funds[2] from any USDA-authorized vendor in support of the implementation of the school meal standards specified in the Healthy, Hunger-Free Kids Act of 2010.[3] Prior to the introduction of the Pilot, schools could choose to use their entitlement dollars to obtain unprocessed fruits and vegetables through either USDA Foods or the USDA U.S. Department of Defense Fresh Fruit and Vegetable Program (USDA DoD Fresh). The Pilot is a collaborative effort between USDA's Food and Nutrition Service (FNS) and Agricultural Marketing Service (AMS). FNS administers the Pilot to participating States, while AMS manages the vendor approval and payment processes. Like USDA DoD Fresh, the Pilot's purpose is to supplement other USDA Foods Programs by providing additional means to obtain unprocessed fruit and vegetables using USDA's resources.[4]

In accordance with 2014 Farm Bill requirements, USDA selected eight States to participate in the Pilot based on their geographic locations;[5] previously demonstrated commitment to farm to school efforts; and the number, size, and geographic location of participating School Food Authorities (SFAs) in those States. State Distributing Agencies (SDAs) administer the Pilot in each State; manage their States' USDA Foods entitlement spending under the Pilot; select SFAs for participation; work with enrolled SFAs to assist in the competitive procurement process; verify

[1] Produce that qualifies as "unprocessed" for the Pilot is defined as produce whose inherent character has not been changed by processing. Examples of light processing techniques that are considered acceptable for "unprocessed" produce include general heat transfer methods (cooling, refrigerating, and freezing); size alteration (peeling, slicing, dicing, cutting, chopping, shucking, and grinding); drying/dehydrating; washing; packaging, vacuum packing, and bagging; and adding ascorbic acid or other preservatives. Canned and other heat-preserved fruits and vegetables are not considered unprocessed. Only unsweetened dried fruits are allowed.

[2] USDA purchases domestic foods (USDA Foods), in addition to providing cash assistance, for States to use in Child Nutrition Programs such as the National School Lunch Program, which provides nutritious lunches to schoolchildren, including free or reduced-price lunches. USDA Foods entitlement funds are the dollar value of USDA Foods that States are entitled to each year, in accordance with the Richard B. Russell National School Lunch Act (42 U.S.C. 1755(c) and 1766(h)(1)(B)). Retrieved from http://www.fns.usda.gov/sites/default/files/WhitePaper.pdf.

[3] The Healthy, Hunger-Free Kids Act of 2010 required USDA to issue new science-based standards for school meals. Based on recommendations from the Institute of Medicine, the standards aim to improve the nutritional quality of school meals and align with the 2010 Dietary Guidelines for Americans. The final rule, which updates the meal patterns and nutrition standards, can be found at https://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf.

[4] Through the USDA Foods Program, States receive a USDA Foods entitlement amount. States place orders for fruits and vegetables (e.g., fresh, frozen, canned, dried), as well as other types of food (e.g., dairy, protein foods, grains, and oils) with USDA, and USDA purchases the food for distribution to State and local agencies, deducting the cost from the States' USDA Foods entitlement. States may also allocate a portion of their USDA Foods entitlement funds to USDA DoD Fresh, which allows them to order fresh fruits and vegetables from USDA DoD Fresh vendors. Retrieved from http://www.fns.usda.gov/sites/default/files/WhitePaper.pdf.

[5] USDA was required to select at least one State from each of the following regions: (1) Pacific Northwest Region, (2) Northeast Region, (3) Western Region, (4) Midwest Region, and (5) Southern Region. Retrieved from http://www.ams.usda.gov/sites/default/files/media/Pilot%20Project%20July%202014%20Info%20Sheet.pdf.

invoices for Pilot orders; and, in some cases, conduct vendor outreach. For school year (SY) 2014–2015 and SY 2015–2016, USDA did not set a cap on the proportion of USDA Foods entitlement funds that States and SFAs could designate toward the Pilot, although States could choose to do so. States and SFAs could also use geographic preference to procure local produce under the Pilot.[6]

Five of the eight States—California, Connecticut, Michigan, New York, and Oregon—procured produce and received deliveries in the first year of the Pilot (SY 2014–2015). The remaining three States—Virginia, Washington, and Wisconsin—began the Pilot in SY 2015–2016. This report presents the results of the evaluation of the Pilot in its first two years (SY 2014–2015 and SY 2015–2016) of implementation.

## ES.2. Evaluation Objectives

The evaluation aimed to assess three objectives:

1. The quantity and cost of each type of fruit and vegetable received in participating States under the Pilot.
2. The impact of the Pilot on participating States' procurement operations for unprocessed fruits and vegetables, including the impact on school food use and States' ability to meet school meal standards.
3. The States' perceptions of the benefits and challenges of unprocessed fruit and vegetable procurement under the Pilot.

## ES.3. Evaluation Design, Data Collection, and Analysis

To evaluate Pilot implementation and impact, the study team implemented a mixed-methods design to collect and analyze data. The study team used USDA administrative records data to assess impacts of the Pilot on the quantity, cost, and variety of unprocessed produce obtained. The administrative data included the pre-Pilot year (SY 2013–2014), first Pilot year (SY 2014–2015), and second Pilot year (SY 2015–2016) for the Pilot States.[7] The evaluation used qualitative data from interviews with SDA officials to assess the impacts of the Pilot on school procurement operations and the States' perceptions of the Pilot. The study team then used descriptive and comparative methods to obtain univariate and summary statistics on the quantitative outcomes for the Pilot States. The analyses included comparisons between the Pilot, USDA Foods, and USDA DoD Fresh Programs across all aforementioned years. The evaluation used content analysis to analyze interview data to identify implementation strategies for each State, benefits and challenges of the Pilot, and other themes that emerged as SDA officials described Pilot experiences.

[6] Effective October 1, 2008, institutions receiving funds through the Child Nutrition Programs may apply geographic preference in the procurement of unprocessed locally grown or locally raised agricultural products. Geographic preference allows procuring agencies to specify that the products are grown or raised in a specific geographic area or to apply local preference in selecting vendors. The Geographic Preference Option for the Procurement of Unprocessed Agricultural Products in Child Nutrition Programs Final Rule, located in program regulations at 7 CFR Part 210.21(g)(2), finalizes the geographic preference option in Child Nutrition Programs. Retrieved from https://www.federalregister.gov/documents/2011/04/22/2011-9843/geographic-preference-option-for-the-procurement-of-unprocessed-agricultural-products-in-child.

[7] School year is defined as July 1 through June 30 of the following calendar year.

## ES.4. Key Findings

The Pilot provided an additional opportunity for States to obtain produce using USDA Foods entitlement funds. The results of the study team's analyses in the first and second years of the evaluation suggest several important findings about the Pilot's impacts:

- **The total amount of produce obtained and the extent of State, SFA, and vendor participation were limited in the first year of the Pilot, but they grew in the second year.** Limitations on the availability of entitlement funds and access to eligible vendors at startup were the primary drivers of initial challenges, but these challenges eased as the Pilot ramped up.
    - The initial five States spent almost $600,000 in the first year through the Pilot and more than $3.7 million in the second year. The eight States combined spent almost $4.7 million through the Pilot in the second year.
    - The initial five States received 692,741 pounds of produce through the Pilot in the first year and nearly 5.8 million pounds in the second year.
    - Interest in the Pilot grew in the second year. The number of SFAs that enrolled in the Pilot grew from 141 in the first year to 1,078 in the second year. Most of the increase resulted from the addition of the three States that started the Pilot in the second year, with the exception of New York, which automatically enrolled 805 SFAs in the second year of the Pilot.
    - The number of SFAs that received deliveries under the Pilot increased from 64 in the first year to 445 in the second year. For the initial five States, this is largely because of challenges with access to vendors and the availability of entitlement funds eased in the second year.
    - By the end of the second year, twice as many vendors were approved to participate in the Pilot compared with the first year (82 vendors versus 39 vendors) due to vendor outreach and increased interest in the program. Almost 48 percent of the approved vendors delivered products to SFAs in the second year, compared with only 23.1 percent in the first year. Most vendors that completed deliveries were distributors, and 56.4 percent of vendors were small businesses.
- **States obtained a higher proportion of fruits than vegetables through the Pilot.** Across the two Pilot years, 70.9 percent of spending was on fruits and 29.1 percent was on vegetables. The individual States varied, however, from 53.5 percent fruits to 94.9 percent fruits. The proportion of funds spent on fruits versus vegetables under the Pilot overall was similar to the proportions for USDA DoD Fresh at the State level.
- **The top five products obtained through the Pilot accounted for almost 70 percent of all Pilot produce.** States used 45.2 percent of Pilot entitlement funding to obtain apples. The next most common types of produce obtained under the Pilot included romaine lettuce (8.4 percent), oranges (6.5 percent), pears (5.8 percent), salad mixes (4.2 percent), and carrots (4.1 percent). A wide variety of factors contributed to this, including student and school preferences and local produce availability.

- **Sixty-five percent of the produce that SFAs received under the Pilot was local produce.**[8] States obtained 64 types of locally produced products through the Pilot. Local fruits obtained were mostly apples, while local vegetables were mostly romaine lettuce, salad mixes, and carrots. Most States acquired local produce through the Pilot that originated in their own States, along with produce that originated in one or more adjacent States.
- **The Pilot resulted in an increased variety of unprocessed fruits and vegetables obtained by SFAs with entitlement funds.** Analysis of administrative data revealed that participating SFAs received 42 varieties of produce through the Pilot that they did not order through the USDA Foods or USDA DoD Fresh Programs (although many of the items obtained through the Pilot may have been available through those programs).
- **The Pilot was especially beneficial to Pilot SFAs that did not participate in USDA DoD Fresh.** USDA DoD Fresh is an important source of fresh produce for SFAs across the United States. The Pilot provided SFAs that do not participate in USDA DoD Fresh with an opportunity to receive a wider variety of unprocessed produce than they were able to access through the USDA Foods program at that time. Pilot SFAs that did not participate in USDA DoD Fresh (n=391) in either year ordered more than 100 types and varieties of unprocessed produce through the Pilot that they did not order Statewide through USDA Foods.
- **SDA officials perceived several important benefits for schools participating in the Pilot, including:**
    - *Expanded meal options.* The Pilot increased access to a wide variety of produce to meet meal requirements and student demands. The Pilot expanded the options for SFAs to obtain items they did not previously receive using USDA Foods entitlement funds.
    - *Opportunity to obtain local produce.* Although the States varied in their emphasis on using the Pilot to obtain local produce, SDA officials reported that the Pilot provided another opportunity to obtain locally sourced unprocessed produce and further farm to school initiatives.
    - *Increased autonomy over purchasing decisions using entitlement funds.* The Pilot allowed SFAs to procure their own vendors and thus increased their control over the timing of deliveries. In addition, the added flexibility to obtain these products through the Pilot allowed SFAs to allocate commercial account funding to other school meal procurements.
- **SDA officials described the Pilot, USDA DoD Fresh, and USDA Foods as complementary programs designed to fill different needs.** States obtained 70 types of unprocessed fruits and vegetables through the Pilot, including many types and specific varieties of produce that they did not obtain through the USDA Foods or USDA DoD Fresh Programs. For SFAs that chose to receive types and varieties of produce through the Pilot that they did not obtain through the USDA Foods and USDA DoD Fresh Programs, the

[8] Local produce is produced within the State in which the customer is located or in a bordering State.

Pilot was a valuable addition to the opportunities available to obtain produce with entitlement funds.

The Pilot also complemented the other USDA Foods Programs by providing an additional opportunity to obtain unprocessed produce. Although many fruits and vegetables are available in frozen form through USDA Foods, States obtained several products in fresh form through USDA DoD Fresh and the Pilot, including broccoli and strawberries.

SDA officials identified several challenges in the Pilot:

- Key challenges to vendor participation included vendor perceptions of the AMS approval process and vendor capacity to increase production or distribution to meet school needs. The cost and burden of Good Agricultural Practices certification was especially challenging to some vendors. Most Pilot SDAs and their partnering State Departments of Agriculture worked to address these challenges by providing technical assistance and additional outreach to vendors.
- For SFAs, limited access to local Pilot-approved vendors posed a challenge to participating in the Pilot. SDA officials noted that the main reason SFAs chose not to enroll, or enrolled but did not receive deliveries, was because they lacked access to approved vendors in their area that could serve them.
- An ongoing challenge for Pilot SDAs and SFAs was the administrative burden involved in tracking and reconciling invoices. The Pilot invoice reconciliation process was a challenge because it required manual comparison of USDA and State records for each item ordered. Some SDA officials with limited staff felt this process limited the Pilot's growth.

## ES.5. Conclusion

Paired with the USDA DoD Fresh and USDA Foods Programs, the Pilot offered SFAs additional flexibility to obtain unprocessed produce using USDA Foods entitlement funds. Through the Pilot, SFAs obtained a variety of types and forms of produce locally and from other parts of the United States. States reported that the Pilot helped SFAs meet student demands, provided SFAs with an additional opportunity to obtain local foods, and increased SFA autonomy over vendor selection.

The main limitation of the Pilot evaluation is that the data provide a limited picture of the overall food acquisition patterns of States and SFAs and how the Pilot impacted those patterns. Two main factors contributed to this limitation: a lack of information on SFAs' commercial market purchases and limited SFA-level data on USDA DoD Fresh and USDA Foods orders. Without this information, it was not possible to analyze how the Pilot affected an SFA's overall food acquisition pattern across procurement mechanisms or to use a comparison group of SFAs not participating in the Pilot to examine changes in procurement.

# 1. Introduction

## 1.1. Background

The U.S. Department of Agriculture (USDA) Food and Nutrition Service (FNS) administers the Child Nutrition Programs, which play a critical role in children's lives by serving healthy meals and educating children about the link between nutrition and health. Specifically, the National School Lunch Program (NSLP) provides nutritious lunches to schoolchildren, including meals free or at a reduced cost.[9] As part of a balanced diet, USDA promotes the consumption of fruits and vegetables in many forms—fresh, frozen, canned, dried, and juice—in school meals. The updated nutrition standards for school meals include specific requirements for fruits and vegetables.[10] These standards require schools to do the following:

- Offer fruits and vegetables as two separate components.
- Offer fruits daily at breakfast and lunch.
- Offer vegetables daily at lunch.
- Meet weekly requirements for specific vegetable subgroups (i.e., dark green, red/orange, beans or peas (legumes), starchy, and other).

States that participate in NSLP receive a USDA Foods "entitlement," which permits them to place orders with USDA for food that USDA procures and distributes for use in school meals. The USDA Foods Program offers States about 200 products for use in school meals each year, including a variety of canned, dried, frozen, and fresh fruits and vegetables. All USDA Foods products "must be a product of the United States, its territories or possessions, the Commonwealth of Puerto Rico, or the Trust Territories of the Pacific Islands…and shall be considered to be such a product if it is grown, processed, and otherwise prepared for sale or distribution exclusively in the United States."[11] Additionally, USDA offers access to a wide variety of fresh fruits and vegetables through its partnership with the U.S. Department of Defense (DoD). DoD serves as its procurement agent for fresh fruits and vegetables, which leverages DoD's existing network of produce vendors serving military installations across the United States. DoD's produce contracts provide a wide variety of quality produce, helping schools utilize their USDA Foods entitlement and stretch their food budgets. In 2015, the USDA DoD Fresh Fruit and Vegetable Program (USDA DoD Fresh) provided $158 million in fresh fruits and vegetables to participating schools.[12]

[9] USDA FNS. (2017, August). *National School Lunch Program Fact Sheet*. Retrieved September 5, 2017, from https://fns-prod.azureedge.net/sites/default/files/cn/NSLPFactSheet.pdf.

[10] The Healthy, Hunger-Free Kids Act of 2010 required USDA to issue new science-based standards for school meals. Based on Institute of Medicine recommendations, the standards aim to improve the nutritional quality of school meals and align with the 2010 Dietary Guidelines for Americans. The final rule updating the meal patterns and nutrition standards can be found at https://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf.

[11] USDA AMS. (2017, January). *AMS Master Solicitation for Commodity Procurements.* Retrieved November 7, 2017 from https://www.ams.usda.gov/sites/default/files/media/AMS_Master_Solicitation%5B1%5D.pdf.

[12] USDA FNS. (2016, February). *USDA Foods in the National School Lunch Program* [White paper]. Retrieved April 12, 2017, from http://www.fns.usda.gov/sites/default/files/fdd/NSLP-White-Paper.pdf.

## 1.2. The Pilot Project for Procurement of Unprocessed Fruits and Vegetables

The Pilot Project for Procurement of Unprocessed Fruits and Vegetables (the Pilot) provides an additional opportunity for eight States to obtain produce using existing USDA Foods entitlement funds. Authorized in Section 4202 of the Agricultural Act of 2014 (P.L. 113-79),[13] otherwise known as the 2014 Farm Bill, the Pilot allows participating States and School Food Authorities (SFAs) to use USDA Foods entitlement funds to obtain unprocessed fruits and vegetables through contracts that the State or SFA secures with USDA-approved vendors. The Pilot also provides SFAs with additional opportunities to use USDA Foods entitlement funds to obtain local produce by permitting geographic preference in procurement criteria,[14] although this preference is not a requirement.

Produce that qualifies as "unprocessed" for the Pilot is produce for which processing has not changed its inherent character. Examples of light processing techniques that are acceptable for "unprocessed" produce include:

- General heat transfer methods such as cooling, refrigerating, and freezing.
- Size alteration through peeling, slicing, dicing, cutting, chopping, shucking, and grinding.
- Drying/dehydrating.
- Washing.
- Packaging, vacuum packing, and bagging (such as placing vegetables in bags or combining two or more types of vegetables or fruits in a single package).
- Adding ascorbic acid or other preservatives to prevent oxidation of produce.

Except as noted above, other processing techniques are not part of the Pilot's definition of "unprocessed," including canning or other heat-preserving techniques, freeze-drying, and adding preservatives or sweeteners. Only unsweetened dried fruits are considered unprocessed.

[13] Agricultural Act of 2014. Retrieved April 12, 2017, from https://www.gpo.gov/fdsys/pkg/BILLS-113hr2642enr/pdf/BILLS-113hr2642enr.pdf.

[14] Effective October 1, 2008, institutions receiving funds through the Child Nutrition Programs may apply geographic preference in the procurement of unprocessed locally grown or locally raised agricultural products. Geographic preference allows procuring agencies to specify that the products are grown or raised in a specific geographic area or to apply local preference in selecting vendors. The Geographic Preference Option for the Procurement of Unprocessed Agricultural Products in Child Nutrition Programs Final Rule, located in program regulations at 7 CFR Part 210.21(g)(2), finalizes the geographic preference option in Child Nutrition Programs. Retrieved from https://www.federalregister.gov/documents/2011/04/22/2011-9843/geographic-preference-option-for-the-procurement-of-unprocessed-agricultural-products-in-child.

## 1.3. Overview of Pilot Implementation

USDA selected eight States in December 2014 to participate in the Pilot: California, Connecticut, Michigan, New York, Oregon, Virginia, Washington, and Wisconsin. The 2014 Farm Bill required the Pilot to include at least one State in each of five specified regions and capped the number of States that could participate at eight.[15] USDA also selected States based on several other 2014 Farm Bill criteria, including:

- The quantity and variety of local fruit and vegetable growers per capita in the State.
- The State's commitment to farm to school efforts.
- The number, size, and location of SFAs in the State.[16]

The States began operating the Pilot in two cohorts. Five of the eight States—California, Connecticut, Michigan, New York, and Oregon—started receiving deliveries near the end of the first year of the Pilot (school year (SY) 2014–2015). The remaining three States—Virginia, Washington, and Wisconsin—began receiving deliveries in the second year (SY 2015–2016). When Virginia and Wisconsin applied for participation, they intended to start the Pilot in the second year because the initial timing of startup did not align well with their timeline for planning entitlement spending. When USDA selected the eight Pilot States in December 2014, the States had already obligated most or all of their entitlement funding for SY 2014–2015. Washington intended to order through the Pilot in the first year, but there were no approved local vendors willing to serve SFAs enrolled in the Pilot.

State Distributing Agencies (SDAs) administered the Pilot at the State level. At the start of the Pilot, participating SDAs selected a set number of SFAs to participate based on 2014 Farm Bill requirements. The 2014 Farm Bill did not specify the number or types of SFAs that should participate, although it did encourage diversity: a sufficient quantity of SFAs with various population sizes from different geographical locations throughout the State.

Upon notification of acceptance into the Pilot, participating SDAs worked with the Agricultural Marketing Service (AMS) and their SFAs to conduct outreach to potential Pilot vendors. SDAs and SFAs could both procure new vendors and leverage existing commercial contracts with vendors, provided that AMS approved the vendor and the contract modification did not involve a material change (i.e., a change to the type or quantity of products purchased under the existing contract). Vendors applied to participate in the Pilot through an AMS approval process. One vendor requirement was Good Agricultural Practices (GAP) certification for each product sold to Pilot participants. GAP certification is an audit process to ensure that the production, packing, handling, and storage of produce are as safe as possible to minimize risks of microbial food safety

[15] Agricultural Act of 2014. Retrieved April 12, 2017, from https://www.gpo.gov/fdsys/pkg/BILLS-113hr2642enr/pdf/BILLS-113hr2642enr.pdf.

[16] SFAs are governing bodies responsible for the operation of NSLP and other food programs in a school, school district, or group of school districts.

hazards.[17] Distributors and packers must source from GAP-certified farms to ensure the traceability of the products offered through the Pilot.[18]

Participating SDAs also worked with SFAs to determine, on an annual basis, the amount of USDA Foods entitlement funds to dedicate to the Pilot. In SY 2014–2015 and SY 2015–2016, USDA did not restrict the amount of entitlement funds that States and SFAs could set aside for the Pilot. USDA also allowed States to carry over unspent entitlement funds into the following school year.

## 1.4. Report Organization

This report presents the results of the evaluation of the first and second years of the Pilot (SY 2014–2015 and SY 2015–2016). Section 2 provides an overview of the evaluation of the Pilot, including the study objectives, conceptual framework, data sources, and methods used in the evaluation. Section 3 describes the characteristics of Pilot participants, including the States, SFAs, and vendors. Section 4 describes the implementation of the Pilot in the eight States and the challenges and successes of implementation. Section 5 provides the results of the evaluation, including findings on Pilot entitlement spending; the types, cost, and quantities of fruits and vegetables obtained; and local foods obtained. Sections 4 and 5 also include descriptions and discussions of States' overall impressions of the Pilot, including the challenges and benefits of the Pilot and the impact of the Pilot on State perceptions of USDA, USDA Foods, and USDA DoD Fresh. Section 6 summarizes the key findings of the evaluation and highlights lessons learned from the Pilot and recommendations for improvements to the Pilot.

[17] USDA AMS. (n.d.). *Good Agricultural Practices (GAP) & Good Handling Practices (GHP).* Retrieved April 12, 2017, from https://www.ams.usda.gov/services/auditing/gap-ghp.

[18] USDA AMS. (2014, July). *The Pilot Project for the Procurement of Unprocessed Fruit and Vegetables* [Information sheet]. Retrieved April 12, 2017, from https://www.ams.usda.gov/sites/default/files/media/Pilot%20Project%20July%202014%20Info%20Sheet.pdf.

# 2. Study Design and Methods

The study team used a mixed-methods approach to assess the success of the Pilot in providing participating States with additional flexibility to obtain unprocessed fruits and vegetables using USDA Foods entitlement funds through direct contracts with USDA-approved vendors. This section provides an overview of the objectives of the study and the data collection and analysis approach the research team used to achieve those objectives.

## 2.1. Study Objectives

This study design addresses three primary objectives.

***Objective 1: To assess the types, quantities, and cost of unprocessed fruits and vegetables obtained through the Pilot.*** This objective aims to describe States' unprocessed fruit and vegetable procurements, including:

1. The amount of entitlement funds spent through the Pilot in each State, over time and in comparison with spending for USDA DoD Fresh and USDA Foods.
2. The quantities of unprocessed produce obtained through the Pilot.
3. The types and varieties of unprocessed produce received through the Pilot in each State, over time and in comparison with unprocessed produce obtained through USDA DoD Fresh and USDA Foods.
4. Local foods obtained through the Pilot by State and over time, including the cost, quantities, and types of produce obtained in the pre-Pilot year.
5. The cost of produce items obtained through the Pilot and how it compares to the cost of produce obtained through USDA DoD Fresh.

***Objective 2: To assess the impact of the Pilot on States' procurement operations for unprocessed fruits and vegetables, including the ability to meet school meal standards, impact on school food service operations, and type of meals provided.*** This objective focuses on understanding how States implemented the Pilot and how the Pilot impacted school meals and school meal program planning and operations, including:

1. The numbers and characteristics of participating States, SFAs, and vendors in each Pilot year.
2. How States planned, implemented, operated, and monitored the Pilot—including processes to select SFAs, identify vendors, conduct procurement, and track invoices—as well as whether there were any changes over the course of implementation.
3. The impact of the Pilot on States' and SFAs' administration and operations, including the impact on States' ability to use USDA Foods entitlement funds, SFAs' procurement operations, school food service operations, and States' ability to meet school meal standards.

***Objective 3: To describe States' perceptions of the benefits and challenges of the Pilot.*** The focus of this objective is to describe States' overall perspectives on the Pilot, including:

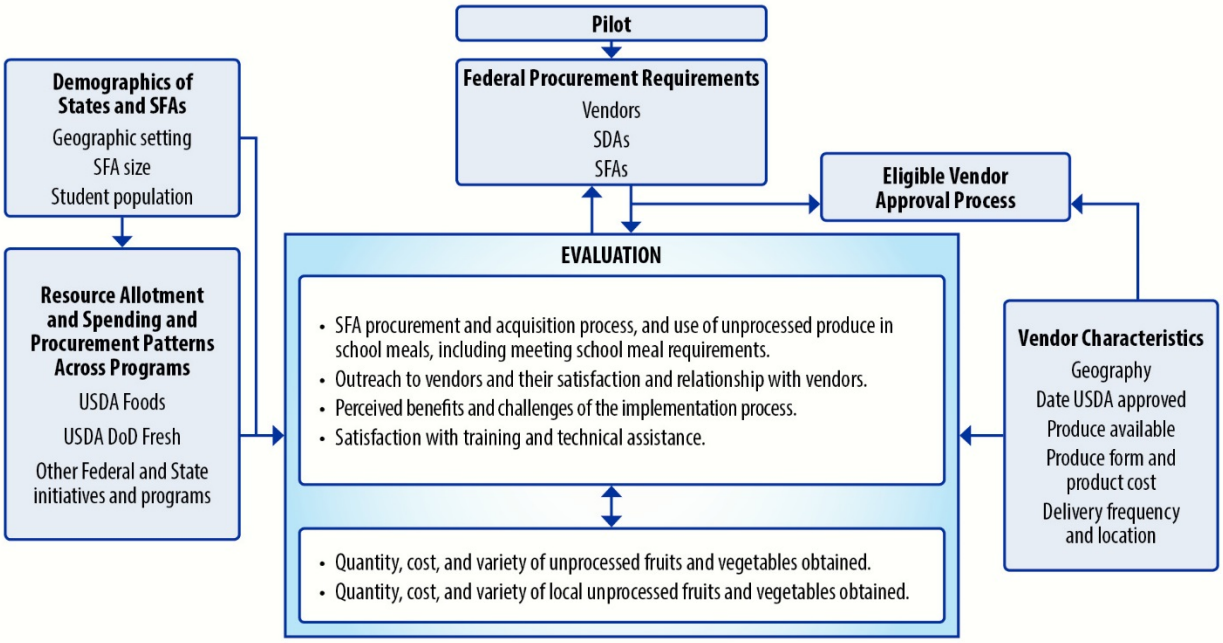
1. Expectations for the Pilot and motivations for participation.
2. The main benefits and challenges of the Pilot for States, SFAs, and vendors.
3. Impressions about the success of the Pilot in improving access to unprocessed fruits and vegetables, and specifically to local produce.
4. Satisfaction with the Pilot and initial impressions on how the Pilot compares with the USDA Foods and USDA DoD Fresh Programs.

To achieve these objectives, the study used FNS administrative data and secondary data on SFA characteristics to address objectives related to the characteristics of Pilot States, SFAs, and vendors as well as the impacts of the Pilot on the types, cost, and quantities of produce obtained. The study also uses qualitative data gathered through semi-structured interviews to address objectives related to the implementation of the Pilot and States' perceptions of the Pilot.

## 2.2. Conceptual Framework

To address the study objectives, the study team developed a conceptual framework for the evaluation (Figure 1).

**Figure 1. Conceptual Framework**




The Pilot is one of several ways that SFAs and schools can obtain unprocessed fruits and vegetables for school meals using USDA Foods entitlement funds. Two larger programs, USDA DoD Fresh and USDA Foods, provide food for the Child Nutrition Programs and may influence the Pilot's implementation, as the Pilot is an additional option for States to spend entitlement funds. The Pilot provides another spending mechanism that can change the distribution of entitlement

funding across programs, or the "purchase ratio."[19] The produce budget allotment and purchase ratios during the pre-Pilot and Pilot periods in the USDA Foods and USDA DoD Fresh Programs may influence States' spending decisions under the Pilot as well. Another programmatic consideration is the impact of farm to school initiatives, which encourage schools to connect with local producers and obtain local foods, including fresh fruits and vegetables. A thorough understanding of the effects and interactions of these concurrent, complementary programs and policies will facilitate examination and interpretation of the impact on the Pilot.

## 2.3. Data Sources and Methods

This section describes the data sources used for the evaluation and the data analysis process.

### 2.3.1. Administrative Data

The study team used several types of USDA administrative data for information on the unprocessed fruits and vegetables that States obtained and the characteristics of enrolled SFAs and vendors. The USDA administrative datasets included the following:

- Pilot Reports:
    - **Vendor/SDA Reports (both Pilot years):** Information on individual Pilot invoices, including product descriptions, quantity and cost, State of origin, vendor name, delivery date, recipient SFA, and recipient city.
    - **List of Participating SFAs (both Pilot years):** Information on enrolled SFAs, including name, city, and State.
    - **List of Eligible Vendors (both Pilot years):** Information on eligible vendors, including name, date approved, and eligible products.
    - **Pilot Vendor Characteristics (both Pilot years):** Information on the characteristics of vendors, including vendor name, business type, size, location, and the variety of products offered.
    - **Pilot State Entitlement Tracking Report (both Pilot years):** Information on the amount of USDA Foods entitlement allocated to the Pilot by each State.
- USDA DoD Fresh Program Reports:
    - **USDA DoD Fresh Entitlement Report by Month (pre-Pilot year and both Pilot years):** State-level information on entitlement funds allocated and spent through USDA DoD Fresh, by month.
    - **Fresh Fruits and Vegetables Order Receipt System (FFAVORS) Reports (pre-Pilot year and both Pilot years):** State-level information on entitlement funds allocated to and spent through USDA DoD Fresh; information on orders, including product descriptions, quantity and cost of produce, and produce State of origin;

[19] In this report, USDA DoD Fresh, USDA Foods, and the Pilot are referred to collectively as "USDA Foods Programs."

information from vendor catalogs; and order-level detail for SFAs participating in both the Pilot and USDA Foods.

- USDA Foods Reports:
    - **Web-Based Supply Chain Management (WBSCM) NSLP Delivery Order Status Report (pre-Pilot year and both Pilot years):** State level information on order through USDA Foods, including product descriptions, quantity and cost, order status, and delivery date.
    - **USDA Foods Available Lists (pre-Pilot year and both Pilot years):** Information on the foods available through the USDA Foods Program.
    - **USDA Foods Vendor Characteristics (SY 2013–2014 and SY 2014–2015):** Information on the characteristics of vendors, including name, business type, size, and State.

Appendix B includes additional details about these data sources.

### 2.3.2. Secondary Data

The study team used two sources of secondary data for information on the characteristics of participating States, SFAs, and vendors:

- **National Center for Education Statistics (NCES), Common Core of Data (CCD) (pre-Pilot and Pilot years):** Information on public school students and staff and the characteristics of public school districts.
- **USDA 2015 Farm to School Census:** Information on school districts that participated in the Farm to School Census, including details on farm to school activities in SY 2013–2014.

Appendix B includes additional details about these data sources.

### 2.3.3. Interviews With State Distributing Agency Officials

To explore Pilot implementation processes and experiences, this study collected information on Pilot implementation activities and issues, as well as States' perceptions about the benefits and challenges of the Pilot, through in-depth phone interviews with SDA staff. The study team developed the interview guide used in the first year of the evaluation by modifying questions from similar studies conducted for FNS and developing new questions to address gaps.[20] A researcher conducted a 90-minute semi-structured interview with one official from each participating SDA, with a follow-up interview the following school year.[21] To help SDA respondents prepare for the interviews, the researcher provided discussion topics in advance. After the interview, the study team only followed up to clarify ambiguous information collected during the interview.

[20] Sources for identifying existing questions included the Special Nutrition Program Operation Study (http://www.fns.usda.gov/sites/default/files/SNOPSYear1.pdf), Farm to School Toolkit (https://www.fns.usda.gov/sites/default/files/f2s/F2S-Planning-Kit.pdf), and Healthy, Hunger-Free Kids Act Implementation Research Brief Series (http://www.fns.usda.gov/hhfka-implementation-research-brief-series).

[21] The evaluation design included interviews with one official at each SDA. In some States, multiple SDA staff members requested to participate in the interview. The study team allowed multiple people to participate in an interview as long as participation was voluntary.

Topics addressed during the interviews included:

- Motivation for participation in the Pilot.
- Approach to selecting SFAs to participate and engaging vendors.
- Allocation of entitlement funding to the Pilot.
- Procurement processes.
- Impacts on ordering patterns, school meal planning, and food use.

The interviews also addressed SDA and SFA challenges, how they addressed those challenges, SDA officials' perceptions of the Pilot's benefits, and how the Pilot compared to other programs for obtaining fruits and vegetables using entitlement funds.

### 2.3.4. Data Management and Analysis

***Administrative and Secondary Data***

The study team developed and employed data cleaning and processing procedures to address variations and inconsistencies between datasets (see Appendix C). The team applied these data cleaning and processing procedures consistently across datasets and years of data. The extant data sources vary in content and scope. Some data sources contain individual fruit and vegetable product details, while some sources are at an aggregated level (e.g., total spending by States/months). To integrate data sources at the aggregated level (e.g., States, SFAs, school years, months), the team matched data by identifier variables, such as State name, program name, SFA name, and school year, accordingly.

The study team also categorized the unprocessed fruit and vegetable products for comparison across States and between the Pilot, USDA DoD Fresh, and USDA Foods Programs. The classification scheme uses food groupings from the USDA Food Patterns Equivalents Database (FPED),[22] which align with the 2015 Dietary Guidelines for Americans[23] and NSLP requirements for school meals.[24] For the analysis, the study team also further categorized the produce into subcategories (e.g., apples, salad mix, pears) and specific cultivars or varieties (Golden Delicious apples, Bosc pears). Appendix D provides the complete produce classification scheme.

Variations in the data sources presented challenges for the process of matching SFAs, vendors, and product information across datasets. These challenges included the following:

- **Inconsistent reporting of information in Pilot invoice data.** In the Pilot Vendor/SDA Reports, vendors did not use a consistent format to report product descriptions and quantities. As a result, some of the information was missing, unclear, or did not match easily across data sources. The study team imputed the missing or unclear information using reasonable assumptions and information on the order history of similar items, orders in different months, and orders through USDA DoD Fresh or the USDA Foods Program.

[22] USDA. (n.d.). *Food Patterns Equivalents Database.* Retrieved April 12, 2017, from https://www.ars.usda.gov/northeast-area/beltsville-md/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/fped-methodology.

[23] USDA & U.S. Department of Health & Human Services. (2015). *Dietary Guidelines for Americans, 2015–2020.* (8th ed.). Washington, DC: U.S. Government Printing Office. Retrieved July 24, 2017, from https://health.gov/dietaryguidelines/2015.

[24] USDA. (2012, January). *Final Rule Nutrition Standards in the National School Lunch and School Breakfast Programs.* Retrieved April 12, 2017, from https://www.fns.usda.gov/sites/default/files/dietaryspecs.pdf.

- **Inconsistent information on enrolled SFAs.** Specific challenges included:
    - SFA names often differ across datasets. The study team created and maintained a master list of enrolled SFAs and manually matched them to the other datasets.
    - The most recent applicable CCD data (SY 2015–2016) were preliminary and incomplete. After matching SFAs in the CCD data to the master list of SFAs, the study team used the prior year's CCD data to fill gaps in the preliminary data.
    - Administrative datasets did not consistently record the SFA as the recipient of the produce. In some cases, data include the entity that received the delivery, which could be food service management companies, central kitchens, or other types of entities. In these cases, it was not possible to identify the SFA that made the order.
    - The CCD data only include public schools. Some Pilot SFAs are youth service or education centers, which have no CCD records.

A related issue is that the definition of "local" varied across the Pilot, USDA DoD Fresh, and USDA Foods Programs. The origin of products for USDA Foods signifies where the product was processed or packed, but not necessarily where it was grown. USDA DoD Fresh defines "local" as produced within the State in which the customer is located or in a bordering State, but vendor labeling of products as "local" is optional. The definition of "local" for the Pilot also differed across all Pilot States, and vendors self-declared the origins of products in the Vendor/SDA Reports. That is, Pilot vendors sometimes deemed "local" as "locally grown" or "locally produced," including "locally packed." This inconsistency adds uncertainty to the interpretation of the Pilot's impact on the spending on local unprocessed fruits and vegetables. To facilitate comparison across programs, the evaluation team used the definition of "local" used in USDA DoD Fresh (i.e., from within the State or adjacent States).[25] Ultimately, the team was not able to compare entitlement spending on local produce between the Pilot and USDA DoD Fresh because of concerns about the reliability of the self-reported data.

Additional considerations for the interpretation of results include the following:

- This analysis includes data from the first and second years of the Pilot (SY 2014–2015 and SY 2015–2016) and the most recent pre-Pilot year (SY 2013–2014). The school year spans from July 1 to June 30 of the following calendar year.
- All dollar values presented in this report are standardized to SY 2013–2014 dollars by adjusting for Bureau of Labor Statistics Producer Price Index–Final Demand Finished Consumer Foods, Crude (Seasonally adjusted), with the annual average of SY 2013–2014 as the baseline (index=100).[26] This standardization facilitates comparison across school years.

[25] USDA. (2017). *Using USDA DoD Fresh to Purchase Local Produce.* Retrieved December 1, 2017, from https://fns-prod.azureedge.net/sites/default/files/f2s/DoDFresh.pdf.

[26] Data retrieved March 24, 2017, from https://www.bls.gov/data, from Series ID WPSFD41113 monthly commodities table. The calculation process for each school year annual average was to sum the monthly producer price indexes over each school year timeframe and divide by 12 months. The annual averages for SY 2014–2015 and SY 2015–2016 were divided by the SY 2013–2014 annual average. The resulting conversion rate for SY 2014–2015 is 1.038. The resulting conversion rate for SY 2015–2016 is 1.093.

The team applied descriptive analysis methods to obtain univariate and summary statistics on the implementation process and perceptions, where possible, and the quantitative outcome measures (cost, quantity, type, and variety of produce) for the Pilot States. Although the design of the overall evaluation included analyses that compare spending on unprocessed produce across Pilot States, across Pilot years, and at SFA levels to assess the "real" impact of the Pilot, descriptive statistics were the only available analytical tool in the evaluation. The team was unable to conduct extensive comparative analyses because of several limitations on data availability, as Section 2.3.5 notes.

***Interview Data***

The study team recorded the interviews for transcription. Immediately following each interview, a third-party vendor transcribed the audio recording. The study team uploaded the completed interview transcripts into NVivo for coding and content analysis. The team topically coded the transcripts and conducted content analysis of the interview data to describe thematically the implementation strategies, challenges, and success factors. The team paid particular attention to describing circumstances contributing to challenges and successes. The study team also compared the implementation approach, challenges, and success factors across States. The study team converted some characteristics of the States and their programs into variables for use in the quantitative analyses. The quantified data were tabulated with the data generated in the outcome evaluation or were accounted for as covariates in the outcome evaluation analysis to better assess the Pilot's impact.

Figure E.1 and Figure E.2 in Appendix E illustrate the interview data collection and coding process. Appendix F presents the codebook used for interview data. Appendix G contains the interview guides used in the first and second year of the evaluation.

### 2.3.5. Study Limitations

The main limitation of the evaluation of the Pilot is that the data provide a limited picture of the overall food purchasing patterns of a State or SFA. Two main data challenges contribute to the limited picture of purchasing patterns. First, the study team did not have access to State or SFA commercial purchase data. Participating SFAs can obtain unprocessed produce through the commercial market, as well as through the USDA DoD Fresh and USDA Foods Programs. USDA Foods make up approximately 15 to 20 percent of the foods served in school lunches.[27] Without information on commercial procurements, it is not clear if the Pilot led to increased fruit and vegetable procurement or a shift from one purchasing mechanism to another. Second, USDA DoD Fresh and USDA Foods data did not provide enough detail on the entity that received the produce to allow the team to match specific Pilot SFAs to specific orders. Limited SFA-level data prevented the team from conducting analyses across programs at the SFA level and using a comparison group of SFAs not participating in the Pilot to examine changes in procurement. A related issue is that the first year of the Pilot was a partial year with limited participation. This made it difficult to identify meaningful changes in outcomes over the two-year period. Together, these challenges make it difficult to reflect on the impacts of the Pilot on the purchasing or ordering patterns of specific States or SFAs.

[27] USDA FNS. (2016, February). *USDA Foods in the National School Lunch Program* [White paper]. Retrieved April 12, 2017, from https://www.fns.usda.gov/sites/default/files/fdd/NSLP-White-Paper.pdf.

A second limitation relates to the analysis of administrative costs. The study team did not have access to consistent information on the administrative costs for USDA, SDAs, or SFAs associated with the Pilot. The data on Pilot orders did not indicate whether product prices included delivery costs or detail any fees paid to the State. However, the price of USDA DoD Fresh products includes administrative costs associated with administering the program. The study team asked SDA officials whether the cost of Pilot produce included administrative costs, but it was not possible to identify a standard that could apply across States or to every order completed by a State. As a result, the produce costs presented in the report for the three USDA Foods Programs may not include the same cost components and thus may not be directly comparable.

Another limitation stems from the study's reliance on self-reported data. This was an issue especially for analyses of local produce obtained through the Pilot. Early in the Pilot, vendors may have misunderstood the reporting requirements for the origin of the produce. As an example, a vendor reported a State of origin for a product not grown in that State or adjacent States. The study team could not verify the origin of the produce and excluded it from the analysis of local produce obtained through the Pilot. It is possible that there were other, unobservable inconsistencies in vendor reporting on produce origin. Relatedly, programs and vendors were inconsistent in the level of detail provided for the product description. Some descriptions specified varieties or cultivars (e.g., Braeburn apples, Valencia oranges). Other descriptions coded products more generally (e.g., apples, oranges), resulting in produce classification and analysis that could not always be sensitive to specific varieties. As a result, States and SFAs likely obtained some varieties that were not labeled as such.

Finally, the study team had limited access to information on the experiences of SFAs and vendors. The evaluation design limited interviews to one SDA official per State and did not include interviews with SFA or school staff persons, who made the majority of purchasing decisions. During interviews, the study team attempted to collect information about the experiences of SFAs, schools, and vendors in the Pilot. However, most participating SDA officials had not received much direct feedback about the experiences of SFAs, schools, or vendors, or detailed information about how SFAs implemented the Pilot (e.g., whether they received orders, quality/correctness of orders, use of food items). In addition, some SDA officials were not as knowledgeable about the Pilot because they were new to their positions or had less direct involvement. This lack of information limited the team's understanding of the implementation and outcomes of the Pilot, including how the Pilot impacted SFA purchasing decisions.

# 3. Profile of Participating States, SFAs, and Vendors

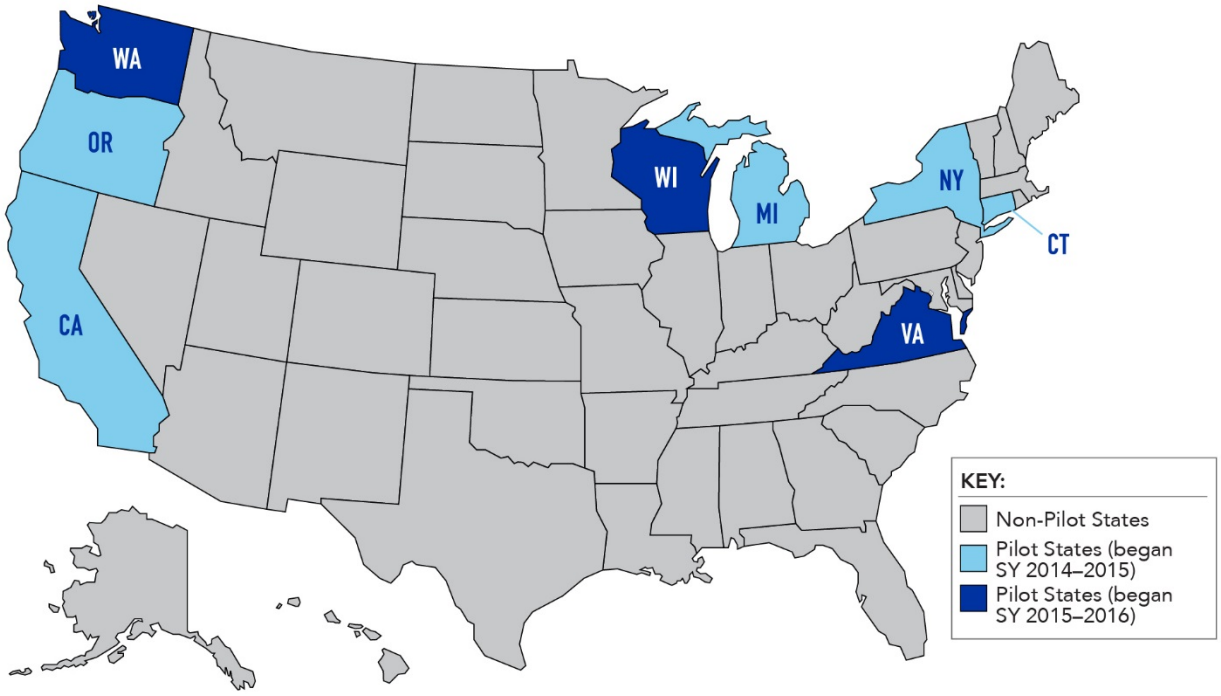
This section describes the characteristics of the SDAs, SFAs, and vendors participating in the Pilot. The characteristics of the participating entities are important because they may shape the implementation and outcomes of the Pilot. The discussion focuses on all eight States. The focus, however, shifts to five States when characteristics are specifically relevant to the first year of the Pilot (e.g., number of enrolled SFAs in the first Pilot year).

## 3.1. Pilot States

### 3.1.1. Region

The eight participating States represent each of the regions across the United States stipulated in the 2014 Farm Bill.[28] Three regions contained two States each: Midwest (Michigan and Wisconsin), Northeast (Connecticut and New York), and Pacific Northwest (Oregon and Washington). The other two regions contained one State each: Southern (Virginia) and Western (California).

**Figure 2. Pilot States**




[28] Section 402.6(3)(B) states that "The Secretary shall ensure that at least 1 project is located in a State in each of—(i) the Pacific Northwest Region; (ii) the Northeast Region; (iii) the Western Region; (iv) the Midwest Region; and (v) the Southern Region."

### 3.1.2. Agriculture

The types and volume of agricultural crops produced, including farm, nursery, and greenhouse crops, varies by Pilot State. Table 1 provides information on each State's agricultural crop production, including the top fruits and vegetables produced and the agricultural industry's economic contributions. This information highlights the context in which the States implemented the Pilot. The extent of in-State production and the types of fruits and vegetables produced are likely to shape the availability of produce in the State and particular locales.

**Table 1. Agricultural Facts on Participating States**

| State | Agriculture Facts |
|---|---|
| California | • Agricultural crop sales: $30.4 billion in 2012.<br>• California produces the largest value of crops in the United States. Crops account for 71 percent of the value of agricultural products sold by California.<br>• Important crops include grapes, strawberries, and tomatoes, based on value of production. |
| Connecticut | • Agricultural crop sales: $389 million in 2012.<br>• Connecticut ranks 43rd for crop production by sold market value in the United States. Crops account for 71 percent of the value of agricultural products sold by Connecticut.<br>• Important crops include apples, based on value of production. |
| Michigan | • Agricultural crop sales: $5.5 billion in 2012.<br>• Michigan is the 14th largest producer of crops by sold market value in the United States. Crops account for 64 percent of the value of agricultural products sold by Michigan.<br>• Important crops include corn, apples, and potatoes, based on value of production. |
| New York | • Agricultural crop sales: $2.2 billion in 2012.<br>• New York is the 28th largest producer of crops by sold market value in the United States. Crops account for 42 percent of the value of agricultural products sold by New York.<br>• Important crops include apples, corn, and grapes, based on value of production. |
| Oregon | • Agricultural crop sales: $3.2 billion in 2012.<br>• Oregon is the 21st largest producer of crops by sold market value in the United States. Crops account for 66 percent of the value of agricultural products sold by Oregon.<br>• Important crops include potatoes, pears, and blueberries, based on value of production. |
| Virginia | • Agricultural crop sales: $1.4 billion in 2012.<br>• Virginia is the 32nd largest producer of crops by sold market value in the United States. Crops account for 36 percent of the value of agricultural products sold by Virginia.<br>• Important crops include apples, grapes, and tomatoes, based on value of production. |

| State | Agriculture Facts |
|---|---|
| Washington | • Agricultural crop sales: $6.5 billion in 2012.<br>• Washington is the 11th largest producer of crops by sold market value in the United States. Crops account for 38 percent of the value of agricultural products sold by Washington.<br>• Important crops include apples, potatoes, and cherries, based on value of production. |
| Wisconsin | • Agricultural crop sales: $4.6 billion in 2012.<br>• Wisconsin is the 16th largest producer of crops by sold market value in the United States. Crops account for 36 percent of the value of agricultural products sold by Oregon.<br>• Important crops include corn, potatoes, and cabbage, based on value of production. |

Source: USDA, National Agriculture Statistics Service. (2017). *State Agricultural Overview.* Retrieved July 24, 2017, from https://www.nass.usda.gov/Statistics_by_State/Ag_Overview.

### 3.1.3. Reasons for Applying for the Pilot

States had various motivations and expectations for Pilot participation. In interviews, SDA officials reported their States were motivated to join the Pilot to increase SFA flexibility in spending entitlement funds, to support the State's agricultural businesses, and because State officials encouraged them to participate. When asked about expectations for the Pilot, SDA officials said they expected the Pilot to increase access to local or fresh produce, flexibility in entitlement spending, and participation in farm to school activities. Other expected outcomes included increased control over contracts and vendor relationships for SFAs; improved shelf life of fragile produce because of faster delivery; and increased student knowledge of the State's produce from increased exposure, particularly through farm to school programs.

## 3.2. Participating SFAs

### 3.2.1. Number of SFAs Enrolled in the Pilot

The first round of participation in the Pilot began in December 2014, midway through the school year. Initial enrollment in the Pilot was limited, but it increased in the second school year. SFA enrollment increased from 3.8 percent of all SFAs in the five initial States in the first year to 22 percent of all SFAs in the second year, as Table 2 shows. In the second year, the total number of enrolled SFAs increased because SFAs in Virginia, Washington, and Wisconsin enrolled in the Pilot,[29] and because there was a large increase in SFAs that enrolled in New York.[30]

[29] Virginia, Washington, and Wisconsin began Pilot implementation in Year Two.

[30] The numbers for New York include a mix of SFAs and individual schools, potentially distorting the extent of participation in this State. In SY 2015–2016, New York allowed individual schools to participate in the Pilot, even if other schools in the SFA did not participate. Pilot data do not include sufficient detail to identify individual schools.

**Table 2. Number and Percent of All SFAs Enrolled in the Pilot**

| State | n (% of All SFAs in State) in SY 2014–2015 | n (% of All SFAs in State) in SY 2015–2016 |
|---|---|---|
| CA | 41 (3.3%) | 42 (3.4%) |
| CT | 15 (7.5%) | 15 (7.7%) |
| MI | 52 (6.1%) | 68 (7.9%) |
| NY | 16 (1.5%) | 821 (76.0%) |
| OR | 17 (6.2%) | 18 (6.6%) |
| VA | 0 (0%) | 22 (13.5%) |
| WA | 0 (0%) | 34 (9.9%) |
| WI | 0 (0%) | 57 (7.9%) |
| **Total** | **141 (3.8%)** | **1,078 (22.0%)** |

Source: Form FNS-742 data and Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Percentage of all SFAs in the State that participated in NSLP, including those exempt from verification requirements.

### 3.2.2. Number of SFAs Receiving Deliveries

The first delivery for the Pilot took place in February 2015. Some SFAs enrolled in the Pilot but did not place orders or receive deliveries; however, all participating SFAs in every Pilot State eventually received deliveries in SY 2014–2015. Table 3 shows the number of enrolled SFAs and the percent that received deliveries by school year and State. In the second Pilot year, the majority of enrolled SFAs in Michigan (97.1 percent), Oregon (77.8 percent), and Wisconsin (96.5 percent) received deliveries, as compared to lower recipient rates in the other five States. According to SDA officials, a lack of eligible local vendors that could deliver produce to them was the main reason that enrolled SFAs did not receive deliveries. SDAs also suggested that some approved local vendors, especially smaller ones, did not have the capacity to supply the quantity or variety of produce that SFAs requested.

**Table 3. Pilot-Enrolled SFAs and Recipients by State**

| State | SY 2014–2015 | | SY 2015–2016 | |
|---|---|---|---|---|
| | Number of Enrolled SFAs | Percent Receiving Pilot Deliveries | Number of Enrolled SFAs | Percent Receiving Pilot Deliveries |
| CA | 41 | 31.7% | 43 | 46.5% |
| CT | 15 | 33.3% | 15 | 53.3% |
| MI | 52 | 61.5% | 68 | 97.1% |
| NY | 16 | 43.8% | 821 | 31.3% |
| OR | 17 | 41.2% | 18 | 77.8% |
| VA | 0 | N/A | 22 | 36.4% |
| WA | 0 | N/A | 34 | 53.0% |
| WI | 0 | N/A | 57 | 96.5% |
| **Total** | **141** | **45.4%** | **1,078** | **41.3%** |

Source: Pilot Vendor/SDA Reports and List of Participating SFAs, SY 2014–2015 and SY 2015–2016.
Note: The number of recipient SFAs in SY 2014–2015 includes several food hubs, such as centralized kitchens, due to inconsistencies in vendor reporting on the delivery recipient. Food hubs could not be matched to enrolled SFAs because food hubs do not appear on the list of enrolled SFAs. The analysis includes three SFAs that received deliveries through the Pilot, but are not on the list of enrolled SFAs for SY 2015–2016.

### 3.2.3. Size and Geographic Settings of SFAs

The rest of this section focuses on the Pilot SFAs that received deliveries ("recipient" SFAs). Recipient SFAs in the Pilot generally had smaller student enrollments. As Table 4 shows, approximately 58 percent of recipient SFAs had fewer than 5,000 students enrolled in the first year of the Pilot. The proportion of small- (fewer than 1,000 students) to medium-sized SFAs (1,000 to fewer than 5,000 students) increased to nearly 75 percent of recipient SFAs in the second year. Twenty-five percent of recipient SFAs were large SFAs with more than 10,000 students enrolled in the first year, but this decreased to less than ten percent in the second year.

Despite the overall higher proportion of smaller SFAs, four States had a majority of SFAs with 5,000 or more students—California, Connecticut, Virginia, and Washington. Over time, the proportion of SFAs with 5,000 or more students increased in three States (California, New York, Oregon) and decreased in two States (Connecticut, Michigan).

**Table 4. Student Enrollment in Pilot Recipient SFAs**

| State | 0 to <1,000 Students | | 1,000 to <5,000 Students | | 5,000 to <10,000 Students | | 10,000 or More Students | |
|---|---|---|---|---|---|---|---|---|
| | SY 2014–2015 | SY 2015–2016 | SY 2014–2015 | SY 2015–2016 | SY 2014–2015 | SY 2015–2016 | SY 2014–2015 | SY 2015–2016 |
| CA | 38.5% | 30.0% | 23.1% | 15.0% | 0.0% | 0.0% | 38.5% | 55.0% |
| CT | 0.0% | 0.0% | 40.0% | 37.5% | 0.0% | 25.0% | 60.0% | 37.5% |
| MI | 0.0% | 7.6% | 46.9% | 51.5% | 34.4% | 31.8% | 18.8% | 9.1% |
| NY | 0.0% | 35.8% | 100.0% | 50.2% | 0.0% | 12.1% | 0.0% | 1.9% |
| OR | 28.6% | 21.4% | 42.9% | 35.7% | 0.0% | 7.1% | 28.6% | 35.7% |
| VA | N/A | 0.0% | N/A | 25.0% | N/A | 12.5% | N/A | 62.5% |
| WA | N/A | 16.7% | N/A | 27.8% | N/A | 22.2% | N/A | 33.3% |
| WI | N/A | 42.6% | N/A | 35.2% | N/A | 18.5% | N/A | 3.7% |
| **Total** | **10.9%** | **29.7%** | **46.9%** | **44.9%** | **17.2%** | **15.7%** | **25.0%** | **9.7%** |

Source: Form FNS-742 data, SY 2014–2015 and SY 2015–2016.

In comparison with all SFAs in the Pilot States, recipient SFAs were more likely to be SFAs with 1,000 or more students. In the Pilot States, 42.3 percent of all SFAs enrolled 1,000 or more students, while 70.3 percent of recipient SFAs enrolled 1,000 or more students. Table 5 provides a comparison of student enrollment for all SFAs in each State with Pilot recipient SFAs.

**Table 5. Student Enrollment in Recipient SFAs and All SFAs in the State (SY 2015–2016)**

| | 0 to <1,000 Students | | 1,000 to <5,000 Students | | 5,000 to <10,000 Students | | 10,000 or More Students | |
|---|---|---|---|---|---|---|---|---|
| State | Pilot | State | Pilot | State | Pilot | State | Pilot | State |
| CA | 30.0% | 53.7% | 15.0% | 23.4% | 0.0% | 9.4% | 55.0% | 13.5% |
| CT | 0.0% | 40.7% | 37.5% | 45.9% | 25.0% | 8.2% | 37.5% | 5.2% |
| MI | 7.6% | 56.3% | 51.5% | 35.7% | 31.8% | 5.5% | 9.1% | 2.4% |
| NY | 35.8% | 58.3% | 50.2% | 34.2% | 12.1% | 6.1% | 1.9% | 1.4% |
| OR | 21.4% | 68.6% | 35.7% | 19.9% | 7.1% | 6.6% | 35.7% | 4.8% |
| VA | 0.0% | 26.4% | 25.0% | 43.6% | 12.5% | 13.5% | 62.5% | 16.6% |
| WA | 16.7% | 57.4% | 27.8% | 25.7% | 22.2% | 7.3% | 33.3% | 9.6% |
| WI | 42.6% | 73.1% | 35.2% | 23.0% | 18.5% | 2.6% | 3.7% | 1.2% |
| **Total** | **29.7%** | **57.7%** | **44.9%** | **29.4%** | **15.7%** | **6.8%** | **9.7%** | **6.1%** |

Source: Form FNS-742 data, SY 2015–2016.

Geographic settings of recipient SFAs varied among States.[31] Table 6 shows the proportion of schools in recipient SFAs in each geographic setting (i.e., city, suburb, town, rural). Across States in both Pilot years, schools were most often located in cities and suburbs and least often in rural areas and towns. SFAs in New York, Michigan, and Wisconsin also had the highest proportions of participating schools in towns and rural areas than other States.

**Table 6. Geographic Settings of Schools in Recipient SFAs**

| | City | | Suburb | | Town | | Rural | |
|---|---|---|---|---|---|---|---|---|
| State | SY 2014–2015 | SY 2015–2016 | SY 2014–2015 | SY 2015–2016 | SY 2014–2015 | SY 2015–2016 | SY 2014–2015 | SY 2015–2016 |
| CA | 55.6% | 43.6% | 36.2% | 43.3% | 1.0% | 3.0% | 7.1% | 10.1% |
| CT | 41.6% | 42.3% | 52.2% | 53.0% | 0.0% | 0.0% | 6.2% | 4.7% |
| MI | 24.3% | 29.0% | 54.2% | 45.6% | 14.0% | 13.3% | 7.5% | 12.2% |
| NY | 0.0% | 9.7% | 39.4% | 51.4% | 45.5% | 13.9% | 15.2% | 25.1% |
| OR | 75.5% | 61.8% | 15.7% | 23.2% | 3.1% | 1.2% | 5.7% | 13.8% |
| VA | N/A | 34.9% | N/A | 42.7% | N/A | 5.0% | N/A | 17.4% |
| WA | N/A | 50.8% | N/A | 35.3% | N/A | 4.4% | N/A | 9.5% |
| WI | N/A | 51.5% | N/A | 18.4% | N/A | 10.4% | N/A | 19.8% |
| **Total** | **42.0%** | **32.9%** | **42.3%** | **40.9%** | **8.5%** | **9.2%** | **7.2%** | **17.0%** |

Source: NCES CCD data, SY 2014–2015 and SY 2015–2016.

[31] See Appendix B.7 for a definition of the geographic setting designations used in this report.

In comparison with all schools in each State, schools in recipient SFAs in most States were more likely to be in cities and less likely to be in towns and rural areas. New York was unique in this regard, with a much lower proportion of schools in recipient SFAs in cities and higher proportions in suburbs, towns, and rural areas, as Table 7 shows. In New York, the Pilot widely expanded in the second Pilot year. In addition, schools in New York City did not participate in the Pilot,[32] which may be why schools participating in the Pilot tended to be more in suburban, town, and rural settings. As Section 4 describes, SDA officials in other Pilot States reported that SFAs in rural areas were more likely to experience challenges finding approved vendors who could deliver to them and may not have participated in the Pilot as a result.

**Table 7. Geographic Settings of Schools in Recipient SFAs and All SFAs in the State (SY 2015–2016)**

| | City | | Suburb | | Town | | Rural | |
|---|---|---|---|---|---|---|---|---|
| State | Pilot | State | Pilot | State | Pilot | State | Pilot | State |
| CA | 43.6% | 39.4% | 43.3% | 39.9% | 3.0% | 8.7% | 10.1% | 11.9% |
| CT | 42.3% | 29.5% | 53.0% | 53.1% | 0.0% | 4.1% | 4.7% | 13.0% |
| MI | 29.0% | 22.5% | 45.6% | 36.1% | 13.3% | 13.4% | 12.2% | 28.1% |
| NY | 9.7% | 44.6% | 51.4% | 31.7% | 13.9% | 7.6% | 25.1% | 16.1% |
| OR | 61.8% | 27.4% | 23.2% | 21.1% | 1.2% | 24.6% | 13.8% | 27.0% |
| VA | 34.9% | 24.3% | 42.7% | 36.1% | 5.0% | 8.9% | 17.4% | 30.7% |
| WA | 50.8% | 30.0% | 35.3% | 34.2% | 4.4% | 14.2% | 9.5% | 21.5% |
| WI | 51.5% | 24.9% | 18.4% | 20.2% | 10.4% | 19.6% | 19.8% | 35.4% |
| **Total** | **32.9%** | **34.0%** | **40.9%** | **35.4%** | **9.2%** | **11.0%** | **17.0%** | **19.6%** |

Source: NCES CCD data, SY 2015–2016.

### 3.2.4. Poverty Levels

The percentage of students eligible for free or reduced-price meals varied across recipient SFAs and States. In five of the Pilot States, recipient SFAs served a higher percentage of free and reduced-price eligible students than the overall percentage for the State, as Table 8 shows. Recipient SFAs in California, Connecticut, and Wisconsin had more than 60 percent low-income students. Virginia had the lowest proportion of low-income students at recipient SFAs at 35.7 percent.

[32] The New York SDA official reported that most SFAs in the State did not plan to participate in USDA DoD Fresh because they felt it did not meet their needs due to distribution logistics, but New York City schools would continue to participate in USDA DoD Fresh.

### Table 8. Students Eligible for Free or Reduced-Price Meals in Recipient SFAs and All SFAs in the State

| State | Pilot SY 2014–2015 | Pilot SY 2015–2016 | State SY 2015–2016 |
|---|---|---|---|
| CA | 75.8% | 62.5% | 65.0% |
| CT | 85.2% | 82.1% | 42.6% |
| MI | 39.5% | 45.1% | 48.6% |
| NY | 39.4% | 41.8% | 56.2% |
| OR | 54.9% | 51.2% | 56.3% |
| VA | N/A | 35.7% | 42.1% |
| WA | N/A | 53.0% | 45.6% |
| WI | N/A | 62.2% | 43.9% |

Source: Form FNS-742 data, SY 2014–2015 and SY 2015–2016, and NCES CCD data, SY 2014–2015.

## 3.2.5. Participation in Farm to School Activities

Recipient SFAs were active in farm to school activities in the year prior to the Pilot. The goal of farm to school programs is to encourage schools to procure and serve local or regional foods and/or conduct educational activities related to local food, agriculture, or nutrition. Commitment to farm to school efforts was one criterion USDA used to select Pilot States, per 2014 Farm Bill requirements. Pilot States such as New York also used this criterion to select SFAs for the Pilot.

The majority of recipient SFAs responded to the 2015 Farm to School Census. As Table 9 shows, more than 84 percent of recipient SFAs in seven of the States responded to the Farm to School Census. In all but one State, Michigan, the majority of recipient SFAs reported farm to school activity in SY 2013–2014. All but Oregon reported that the State had started new farm to school activities in SY 2014–2015. More than 92 percent of schools in Oregon reported conducting farm to school activities in SY 2013–2014, suggesting an already high level of uptake in that State.

### Table 9. Farm to School Participation in Recipient SFAs

| State | Responded to 2015 Census (%) | Conducted Farm to School Activities in SY 2013–2014 | Started Farm to School Activities in SY 2014–2015 | Planned to Start in the Future | No Current Activities and No Future Plans |
|---|---|---|---|---|---|
| CA | 84.2% | 81.3% | 12.5% | 0.0% | 6.30% |
| CT | 87.5% | 85.7% | 14.3% | 0.0% | 0.0% |
| MI | 84.4% | 46.3% | 3.7% | 22.2% | 27.80% |
| NY | 66.8% | 69.3% | 5.5% | 11.7% | 13.50% |
| OR | 100.0% | 92.3% | 0.0% | 0.0% | 7.70% |
| VA | 100.0% | 62.5% | 12.5% | 12.5% | 12.50% |
| WA | 88.9% | 62.5% | 6.3% | 25.0% | 6.30% |
| WI | 100.0% | 69.2% | 7.7% | 11.5% | 11.50% |
| **Total** | **77.2%** | **66.9%** | **6.1%** | **12.8%** | **14.30%** |

Source: 2015 Farm to School Census.
Note: The 2015 Farm to School Census covered SY 2013–2014 farm to school activities.

Recipient SFAs were more likely to have reported conducting farm to school activities in SY 2013–2014 or SY 2014–2015 than all SFAs in the State. As Table 10 shows, all States had a high rate of participation in farm to school activities, suggesting that recipient SFAs chose to be in, or were selected for, the Pilot because they were already interested in and familiar with available local unprocessed produce vendors.

**Table 10. Farm to School Participation in Recipient SFAs and All SFAs in the State (SY 2013–2014 or SY 2014–2015)**

| State | Recipient SFAs | All SFAs in State |
|---|---|---|
| CA | 93.8% | 55.0% |
| CT | 100.0% | 70.3% |
| MI | 50.0% | 43.2% |
| NY | 74.8% | 60.7% |
| OR | 92.3% | 54.7% |
| VA | 75.0% | 56.7% |
| WA | 68.8% | 48.8% |
| WI | 76.9% | 48.9% |
| **Total** | **73.0%** | **52.7%** |

Source: 2015 Farm to School Census.
Note: Includes SFAs that reported conducting farm to school activities in SY 2013–2014 or starting activities in SY 2014–2015. The 2015 Farm to School Census covered SY 2013–2014 farm to school activities.

## 3.3. Participating Vendors

### 3.3.1. Eligible Vendors

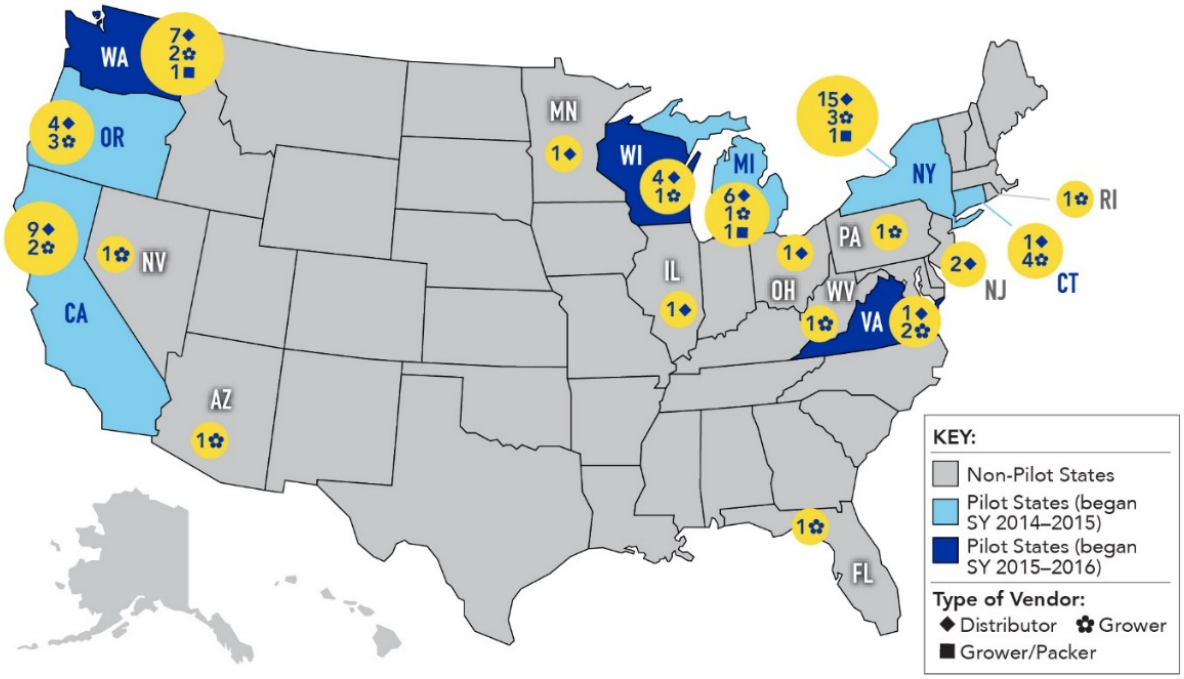
By the end of the second year, twice as many vendors were eligible for the Pilot compared with Year One (82 vendors in Year Two versus 39 vendors in Year One). The increase in the total number of eligible vendors across States is due partially to the implementation of the Pilot in Virginia, Washington, and Wisconsin in the second year. Of the 82 eligible vendors, 86.6 percent were located in a Pilot State (Figure 3). The other eligible vendors were located in nearby States, except for Florida. Just over 63 percent of the eligible vendors self-identified as distributors,[33] 29.3 percent self-identified as growers, and 3.7 percent self-identified as both a grower and a packer or distributor. The majority of vendors with known business sizes (75 percent) were small vendors.[34]

Of the 82 Pilot vendors, only four were also USDA DoD Fresh vendors, suggesting that SFAs mostly engaged new vendors or their existing commercial vendors in the Pilot. However, it is important to note that Pilot vendors were predominantly distributors, and USDA DoD Fresh vendors are all produce distributors. The evaluation data did not consistently identify vendors supplying produce to a distributor. As a result, the study team was unable to identify overlap among

[33] Based on information recorded in the System for Award Management (SAM). Three of the 82 vendors did not have a business type on record.
[34] Based on information recorded in SAM. Business size classification was based on the U.S. Small Business Administration's Small Business Size Standards (https://www.sba.gov/contracting/getting-started-contractor/make-sure-you-meet-sba-size-standards/table-small-business-size-standards). Fourteen vendors did not have business size on record.

vendors supplying produce to distributors. Any of the vendors making sales through either program could source their GAP-certified produce from the same suppliers.

### Figure 3. Number, Type, and Location of Pilot-Eligible Vendors




Source: Pilot Vendor Characteristics and List of Eligible Vendors, SY 2014–2015 and SY 2015–2016.
Note: Three vendors with unknown vendor types (i.e., distributor, grower, packer) are not on this map. One of these vendors was located in Oregon, and two were located in Washington.

### 3.3.2. Vendors Making Pilot Sales

Not all Pilot-eligible vendors made sales under the Pilot in the first or second year, but the proportion of vendors making sales increased over that time. Of the 82 eligible vendors in the second year, 47.6 percent made Pilot sales compared with only 23.1 percent of the 39 vendors in the first year.

### Table 11. Participating Vendors

| School Year | Eligible Vendors (n) | Vendors Making Sales (n) | % of Eligible Vendors Making Sales |
|---|---|---|---|
| 2014–2015 | 39 | 9 | 23.1 |
| 2015–2016 | 82 | 39 | 47.6 |

Source: List of Eligible Vendors and Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.

Most of the vendors who made sales under the Pilot were distributors, as Table 12 shows. All Pilot States obtained produce from distributors, and all Pilot States had more distributors than the other vendor types. Michigan and Wisconsin only obtained produce from distributors. More than 56 percent of the vendors making sales through the Pilot were small businesses.

## Table 12. Characteristics of Vendors Making Sales by State

| State | Vendors Completing Deliveries (n) | Vendor Type | | | Vendor Size | |
|---|---|---|---|---|---|---|
| | | Distributor (n) | Grower (n) | Grower/ Packer (n) | Small (n) | Large (n) |
| CA* | 5 | 3 | 1 | 0 | 2 | 1 |
| CT* | 9 | 6 | 2 | 0 | 4 | 3 |
| MI | 6 | 6 | 0 | 0 | 4 | 2 |
| NY* | 14 | 10 | 2 | 1 | 10 | 2 |
| OR* | 6 | 4 | 2 | 0 | 5 | 0 |
| VA* | 7 | 4 | 3 | 0 | 5 | 1 |
| WA* | 6 | 4 | 1 | 0 | 3 | 2 |
| WI | 5 | 5 | 0 | 0 | 3 | 2 |
| **Total** | **39** | **26** | **9** | **1** | **22** | **10** |

Source: Pilot Vendor Characteristics and List of Eligible Vendors, SY 2014–2015 and SY 2015–2016.
*Note: The total is not the sum of each State's value. Eleven vendors made sales to SFAs in multiple States.
Some vendors serving States with an "*" did not have information on business types and/or sizes. Three vendors with unknown business types and seven vendors with unknown business sizes are not included in the detail on vendor types and sizes.

# 4. Pilot Implementation and Operation

This section describes how States implemented the Pilot and the startup and operational challenges experienced, which are significant for two reasons. First, implementation strategies and challenges may influence the outcomes of the Pilot. As discussed in Section 1.3, the success of the Pilot depended on successful engagement of SFAs and vendors. Second, successes and challenges of Pilot implementation can inform any potential expansion efforts or the design of similar programs.

Section 4.1 provides an overview of Pilot implementation, key implementation activities, and the stakeholders responsible for implementation. Section 4.2 describes the different ways States recruited and selected SFAs. Section 4.3 describes how States identified and recruited Pilot vendors. Section 4.4 describes how States allocated entitlement funds to the Pilot. Section 4.5 describes how States monitored Pilot implementation and their record-keeping practices.

## 4.1. Overview of Pilot Implementation and Operation

Planning and implementation activities began in December 2014, after FNS selected the eight States to participate in the Pilot. As described in Section 1.3, five of the eight States began to obtain produce through the Pilot in the first year (SY 2014–2015), and the remaining three began in SY 2015–2016. The initial five States received their first deliveries between February 2015 and April 2015. All eight Pilot States remained in the Pilot in the third year (SY 2016–2017). The agency responsible for oversight of the Pilot varied for each State and included the State Department of Education or Public Instruction (six States), State Department of Agriculture (one State), and Office of General Services (one State).[35]

In order to fully implement the Pilot, States and SFAs needed to conduct several activities, including:

1. Recruiting and selecting SFAs to participate in the Pilot.
2. Conducting outreach and procurement with vendors.
3. Determining the amount of entitlement to allocate to the Pilot.
4. Developing a system to monitor Pilot procurement and confirm invoice reports from USDA.

Four key stakeholder groups are integral to the successful implementation of the Pilot: USDA, SDAs, SFAs, and vendors. Their roles are as follows:

- **USDA.** FNS's Food Distribution Division (FDD) and AMS partner at the Federal level to oversee and support the Pilot.
    - FDD coordinates the distribution of USDA Foods to schools participating in school meal programs. For the Pilot, FDD coordinates Pilot implementation by SDAs and provides technical assistance to SDAs when appropriate.

[35] Connecticut moved oversight of the Pilot from the State's Department of Administrative Services to the State's Department of Education at an early phase of the Pilot. Wisconsin's Department of Public Instruction oversees public education and public libraries in the State.

- AMS is responsible for managing the eligible vendor approval process and maintaining a list of Pilot-eligible vendors and products. AMS also receives invoices and manages payments to vendors.

- **SDAs in Pilot States.** In general, SDAs administer and monitor the distribution of USDA Foods to schools and other institutions. Pilot SDAs are responsible for oversight of the Pilot at the State level. Their specific roles vary by State depending on the resources available to support the Pilot in each State, but they often provide administrative support to enrolled SFAs, including selecting SFAs to participate, working with SFAs to recruit vendors, assisting with the procurement process, monitoring Pilot spending, and verifying Pilot invoices. Some SDAs also provide technical assistance to vendors on the USDA approval process.
- **Participating SFAs.** As described in Section 1.3, SFAs are governing bodies responsible for the operation of NSLP and other school food programs in a school district. SFAs are responsible for implementing the Pilot by conducting outreach to vendors, managing procurement, ordering products, and ensuring products meet school meal standards.
- **Eligible Vendors.** Vendors are responsible for undergoing an approval process with AMS that involves providing documentation about suppliers and subcontracts; the origins of products; food safety practices and certifications; and protocols for segregating domestic products. Once eligible, vendors are responsible for entering into and fulfilling contracts with SFAs to supply Pilot products.

The remainder of Section 4 describes the Pilot implementation process and some of the challenges that arose during implementation. Since some States started the Pilot in the program's second year, the following discussion uses the "first implementation year" to describe the year the State started the Pilot. The first implementation year is SY 2014–2015 for Connecticut, California, Michigan, New York, and Oregon, and SY 2015–2016 for Virginia, Washington, and Wisconsin.

## 4.2. SFA Recruitment and Pilot Involvement

### 4.2.1. Outreach and Selection

SFA participation is critical to the success of the Pilot because SFAs are typically responsible for managing procurement and purchasing for school meal programs. The States took varied approaches to recruiting and selecting SFAs for the Pilot. In the first implementation year, SDA officials advertised the Pilot and invited SFAs to participate through targeted invitational emails, distribution lists, and other methods of outreach. In the second and third years of implementation, SFAs mainly learned of the Pilot through word of mouth from Pilot vendors and other SFAs.

In the first implementation year, the States targeted SFAs in two main ways. Regardless of targeting strategy, all Pilot States aimed to include SFAs that represented a wide geographical area, various socioeconomic levels, and a range of school district sizes in order to include diverse SFA participation, as required in the 2014 Farm Bill.

- Two States—Michigan and Wisconsin—targeted large SFAs and consortia, or groups of SFAs that conduct procurement together. In Michigan, once a consortium joined the Pilot, the SDA invited SFAs based on the criteria in the 2014 Farm Bill, availability of

entitlement funds, and responsiveness to SDA questions. In Wisconsin, once a consortium joined the Pilot, any of its interested SFAs could opt to join the Pilot.

- The other six States targeted interested SFAs. Two of these States—Oregon and Virginia—allowed any interested SFA to participate. Three States—California, Connecticut, and Washington—selected a subset from the interested SFAs based on the criteria in the 2014 Farm Bill. New York selected a subset of interested SFAs based on their proximity to GAP-certified farms. Connecticut initially invited a demographically mixed group of SFAs participating in USDA DoD Fresh. After receiving a low response, the SDA official directly invited a subset of the original group because, according to the State, those SFAs had demonstrated well-established and well-managed procurement processes.

The States that specifically targeted larger SFAs and consortia tended to have more SFAs that received deliveries in their first implementation year than other States. As Table 13 shows, Michigan and Wisconsin had the highest number of SFAs enrolled and who received deliveries in their first year. In its second year, Michigan was also among the States with the highest number of enrolled and recipient SFAs (see Table 3). The Pilot may have initially been more appealing to larger SFAs and consortia because they had greater capacity and resources to conduct procurement than smaller or individual SFAs operating the Pilot on their own. Once a consortium establishes a contract with a vendor, any SFA in the consortia can order produce through the vendor, eliminating the need for individual SFAs to conduct procurement. Larger SFAs tend to have more staff support or staff dedicated to procurement. In addition, SDA officials reported that concerns about the added administrative burden of procuring food through the Pilot using USDA Foods entitlement funds was one of the main reasons that SFAs did not enroll in the Pilot.

**Table 13. Pilot-Enrolled SFAs and Recipients in the First Implementation Year**

| State | Number of Enrolled SFAs | Number of Recipients of Pilot Deliveries |
|---|---|---|
| CA | 41 | 13 (31.7%) |
| CT | 15 | 5 (33.3%) |
| MI | 52 | 32 (61.5%) |
| NY | 16 | 7 (43.8%) |
| OR | 17 | 7 (41.2%) |
| VA | 22 | 8 (36.4%) |
| WA | 34 | 18 (53.0%) |
| WI | 57 | 55 (96.5%) |

Source: Pilot Vendor/SDA Reports and List of Participating SFAs, SY 2014–2015 and SY 2015–2016.
Note: The number of recipient SFAs in SY 2014–2015 includes several food hubs, such as centralized kitchens, due to inconsistencies in vendor reporting on the delivery recipient. Food hubs could not be matched to enrolled SFAs because food hubs do not appear on the List of Participating SFAs. The analysis includes three SFAs that received deliveries through the Pilot, but are not on the List of Participating SFAs for SY 2015–2016.

In the second year of the Pilot, the five initial States based their approaches to SFA selection on their experiences in the first year and their goals for the program. One of the five States—New York—substantially changed its approach to SFA engagement. The New York SDA enrolled all SFAs in the State in the Pilot (except New York City schools) and allowed individual schools to obtain food under the Pilot even if the entire SFA did not. The SDA also offered each individual SFA or school an additional $2,000 of the State's entitlement funds for allocation to the Pilot using

carryover entitlement funds from the previous school year. This strategy increased the number of enrolled SFAs in New York from 16 in the first year to 821 in the second year. The number of SFAs in the second year included a mix of SFAs and individual schools within SFAs, potentially distorting the extent of participation in the State. The entitlement incentive was likely a draw for many SFAs and schools that joined the Pilot in the second year because it allowed them to use entitlement funds that were not part of their expected allotment for the school year.

The other four States did not make substantial changes to their SFA engagement approaches in the second implementation year. Most new SFAs heard of the Pilot through word of mouth from other SFAs or Pilot vendors. Michigan, which already had a large number of participating SFAs, had more SFAs interested in the Pilot in the second year than the SDA had administrative capacity to manage. The SDA limited participation to only SFAs that met the specific criteria used in the first year (i.e., entitlement funds available to spend, district managers who were responsive to SDA questions, and ability to maintain geographic and socioeconomic diversity across Pilot SFAs). However, Michigan had a 30 percent increase in SFA enrollment in the second year, the second largest increase in SFA enrollment, which may reflect its focus on engaging large SFAs and consortia.[36]

The Connecticut SDA official asked enrolled SFAs in the first year to remain enrolled in the second year. Yet, in that State, one SFA left and one SFA joined the Pilot. California and Oregon allowed all interested SFAs to participate in the second year, which netted an increase of one SFA per State (see Table 2).

### 4.2.2. Reasons for Joining and Leaving the Pilot

According to SDA officials, SFAs were interested in the Pilot because of a desire to use entitlement funds to obtain unprocessed fruits and vegetables, a desire to obtain local produce, the availability of locally based Pilot-eligible vendors willing to deliver produce, and awareness of the variety of produce offered by eligible vendors. In the second year, some SFAs were also interested in participating because of success stories from other SFAs.

Vendor availability largely drove SFA participation in the Pilot. States with the largest numbers of SFAs enrolled in the Pilot or a large increase in SFAs enrolled in the second Pilot year had a greater number of eligible vendors or used one or more distributors that could serve a broad geographic area. As described in Section 4.2.1, Michigan and Wisconsin were among three States with the highest SFA enrollment. These States also used only broadline distributors for the Pilot. Enrolled SFAs in New York—the State that had more than 800 SFAs in the second year—used 14 vendors, 11 of which were distributors.

Few SFAs stopped participating in the Pilot in the second year. These nine SFAs were located in Connecticut (one), Michigan (four), and Oregon (four). According to SDA officials, SFAs left the Pilot for a variety of reasons. SFAs in three States left the Pilot because they lacked the capacity to conduct additional procurement and manage the Pilot. Some SFAs in Oregon left the Pilot because USDA DoD Fresh expanded into their areas for the first time. DoD conducts procurement of produce for USDA DoD Fresh, which eliminates the burden of procurement on resource-

[36] The increase in SFA enrollment in Michigan could also have been due to the State's implementation of an automated invoicing system, which may have reduced the perceived burden of Pilot administration on SFAs.

strapped SFAs. Other reasons that SFAs left the Pilot included an inability to meet vendor-established minimum orders, SFA misconceptions about the Pilot, and SFA perceptions about a limited variety of produce offered through eligible vendors.

SDA officials noted several reasons why SFAs elected to stay in the Pilot, including:

- Ability to use USDA Foods entitlement funds to obtain unprocessed fruits and vegetables.
- Good working relationships with vendors.
- Perceived ease of operating the Pilot.
- Control over contracts with local vendors, including ability to set contract requirements such as delivery schedules and package sizes.
- Lower prices through the Pilot than through USDA DoD Fresh or commercial contracts.

## 4.3. Vendor Recruitment and Procurement

Under the Pilot, SFAs are responsible for conducting competitive procurement[37] to establish contracts with eligible vendors. Vendor participation is contingent on an approval process through USDA. In order to become eligible to sell produce through the Pilot, vendors must undergo an approval process with AMS.[38] To apply, vendors submit documentation about their suppliers and subcontracts, if applicable; the origins of products; food safety practices and certifications; and protocols for segregating domestic products, if applicable. AMS approves vendors on an ongoing basis over the course of the Pilot and maintains a public list of eligible vendors and products.[39]

The Pilot began without an existing list of approved vendors. SFAs had two main options to engage vendors in the Pilot. First, SFAs could approach current vendors about the Pilot and direct them to the AMS website to apply. USDA encouraged States to focus their initial outreach on vendors with existing SFA contracts to assist with startup. Once a vendor was on the eligible vendor list, SFAs either modified existing contracts to include the Pilot or conducted procurement to establish new contracts. SFAs could only modify existing contracts if the modification did not involve a change to the types or quantities of produce. Second, SDAs and SFAs could conduct outreach to new vendors to engage them in the Pilot and then conduct procurement to establish a contract.

SDA partner agencies and other vendors recruited vendors into the Pilot through direct outreach. Many of the States partnered, either informally or formally, with their State Department of Agriculture to promote the Pilot. Farm to School Coordinators, cooperative extension staff, and other State Department of Agriculture staff circulated information to vendors about the Pilot and supported vendors through the USDA approval process. Vendors also helped to recruit other vendors by sharing Pilot success stories.

[37] Competitive procurement is a bidding process that involves requesting bids from vendors to obtain the best value.
[38] Pilot vendor eligibility requirements can be found at https://www.ams.usda.gov/sites/default/files/media/USDA%20UFV%20Pilot_National%20Vendor%20App%20Graph.pdf.
[39] The current list of eligible vendors can be found at https://www.ams.usda.gov/sites/default/files/media/Pilot%20Program%20Eligible%20Vendor%20List.xlsx.

The lack of approved local vendors early in the Pilot, particularly in the first year, limited SFA participation and rapid growth of the Pilot. As described in Section 1.3, Washington was unable to start the Pilot in the first year because there were no eligible local vendors able to serve its SFAs. SDA officials in other States reported SFAs did not enroll in the Pilot because of a lack of eligible local vendors able to deliver to them. The SDA officials also said that limited local eligible vendor availability was the main reason SFAs that enrolled in the Pilot did not receive deliveries in the first and second years.

SDA officials reported the lack of local eligible vendors who could deliver to SFAs was more of a problem for SFAs in rural locations or specific parts of the State. SDA officials from California, Connecticut, and Oregon stated that SFAs in rural areas were unable to identify vendors that could deliver produce to them through the Pilot. The New York official stated that lack of access was a regional issue for rural SFAs in the northern part of the State due to limited agriculture in the region. The Oregon official said that access was limited in the eastern region of the State, where there is a lot of agricultural activity, but many vendors export their products to other countries or do not sell produce in small enough quantities to serve the needs of the individual SFAs.

According to SDA officials, the need to conduct additional procurement with eligible vendors also limited SFA participation and Pilot growth. Procurement is an important difference between the Pilot and other USDA Foods Programs. SFAs are able to use USDA Foods entitlement funds to obtain unprocessed fruits and vegetables—without the need to conduct procurement—through the USDA Foods and USDA DoD Fresh Programs since USDA and DoD manage the procurement process for these programs. SFAs routinely conduct procurement with vendors using their commercial accounts. However, SDA officials reported that smaller SFAs and SFAs with more limited resources did not have the capacity to conduct additional procurements and in some cases chose not to join or left the Pilot due to limited capacity to conduct additional procurement.

SDAs addressed this by providing technical assistance to SFAs on procurement. For example, the SDA official in Washington described the level of support needed by an SFA in a remote area: "I remember the very first call from her was, 'How do I do the procurement?' I had to walk her through how to do a procurement on all those items and do a quote sheet and get all that done. That was a struggle in the beginning, and then [working with] the vendor, but as soon as we worked through those two issues, which took about two hours of teaching and hand-holding, the rest is history. She's a believer. She's a best practice. She's an example. She could stand up in front a group of people, shake a pom-pom, and say it works."

SFAs in two States—Michigan and Wisconsin—experienced fewer challenges with vendor engagement than other Pilot States. This could be because the large SFAs and consortia that participated in the Pilot in these States focused recruitment efforts on large or broadline distributors that could serve schools within a large geographic area. This strategy resulted in SFAs over a broad geographic region obtaining produce through fewer, larger contracts than in other States. Michigan and Wisconsin also focused on engaging existing vendors. Michigan consortia officials modified existing contracts to include Pilot payment clauses. Wisconsin's consortium and large SFAs engaged existing vendors through their annual procurement process. When new procurement was necessary, the burden fell on the consortium or large SFAs involved, instead of on smaller individual SFAs that may not have had the capacity to conduct additional procurement.

Vendors also experienced challenges engaging in the Pilot. According to SDA officials, the USDA approval process was a significant barrier to vendor participation. The cost and burden of GAP certification was especially challenging for some vendors. Vendors are required to have GAP certification for each product type offered through the Pilot and SDA officials suggested that it might be cost prohibitive to smaller producers, especially those that have multiple products to sell. Since vendors pay for GAP certification for each product type, smaller vendors may be more likely to apply for GAP certification if they only have one product type to sell. A smaller vendor with many types of products may not have the financial capacity to apply for GAP certification for multiple products. Conversely, depending on their capacity, smaller vendors may not apply for GAP certification for only one product type if they do not anticipate enough of a return on their investment through Pilot sales.

SDAs addressed challenges in vendor engagement by providing technical assistance and additional outreach to vendors. SDA officials commented that it was helpful to vendors to be able to contact someone knowledgeable about the AMS approval process to walk vendors (particularly smaller, less resourced vendors) through the process. The New York SDA conducted extensive outreach to vendors to develop relationships and engage them "from the barnyard to the boardroom" with a consistent message. The New York SDA's approach combined:

- Attending events such as farm shows, fairs, and produce expos.
- Attending meetings with the Cornell Cooperative Extension, farm to school committees, the New York State Agricultural Society, the State Department of Agriculture, and food hubs throughout the State.
- Conducting outreach to school food service directors to identify and reach out to their current vendors.
- Meeting with producers on their farms.
- Advertising through a New York State Farm Bureau newsletter.
- Direct mailings to all GAP-certified farms in New York and all Cornell Cooperative Extension offices in New York State.
- Partnering with the New York State Department of Agriculture for brand recognition.

The New York SDA also advertised that it had allocated a set entitlement amount for the Pilot to each of its SFAs in order to encourage vendor participation. The New York SDA official reported encouraging producers to get one crop GAP certified first to see whether the Pilot could be financially viable for them. The SDA official reported that this was a successful technique to get vendors to apply to become eligible, but vendors did not expand offerings over time. By the end of the second year of the Pilot, recipient SFAs in New York had received produce through the Pilot from a total of 14 eligible vendors, the most of any State. The vendors that delivered to New York SFAs included ten small businesses, suggesting the SDA's approach to vendor engagement was a success. Another approach to this challenge was to provide financial support to vendors for the USDA approval process. In the second year of the Pilot, one State—Oregon—offered a grant to vendors to subsidize or pay for GAP certification for each crop they could offer. Two farms took advantage of the grant and certified 32 crops.

Future vendor recruitment plans varied by State. SDA officials felt that available staff resources in their States limited future recruitment efforts. Other concerns about the viability of the Pilot included uncertainty about the future of the 2018 Farm Bill and how long the Pilot would last. Other SDAs planned to continue their Pilot projects. The Virginia SDA official described plans to target food hubs and produce distributors for the Pilot because a regional distribution system might reach more of Virginia's Pilot SFAs with a greater variety of produce. Michigan's SDA official was working with its participating broadline distributors to identify local food hubs with GAP-certified produce that could integrate into the distribution system. The SDA's goal for this strategy is to improve SFA access to local produce through the broadline distribution system, which seems to meet the needs of enrolled SFAs.

## 4.4. Allocation of Entitlement Funds

Each year, States and SFAs work together to determine how they will use entitlement funds through the USDA Foods, USDA DoD Fresh, and Pilot programs. SDA officials collect this information and report it to USDA regularly. All but one State allowed SFAs to determine the amount of entitlement allocated to the Pilot in both years. In the first year, Connecticut guided SFAs to allocate 33 percent of their USDA DoD Fresh entitlement set-aside funds to the Pilot. According to SDA officials in other States, SFAs based Pilot allocation decisions in the first implementation year on the amount of unspent entitlement funds from that school year, the availability of eligible vendors, and the SFA's produce needs for the rest of the school year. SFAs participating in their second year based their decisions on similar factors, including:

- Availability of eligible vendors in the area.
- Whether and when specific produce items are available through the Pilot, USDA DoD Fresh, and USDA Foods.
- Timing of item availability through multiple programs and which program best served the SFAs' needs.
- Whether SFAs would have entitlement funds left after accounting for projected orders.

The availability of entitlement funds was a critical factor in State and SFA participation in the first year. The Pilot began in the middle of the school year, after States and SFAs had planned their entitlement spending. As noted in Section 1.3, Virginia and Wisconsin started the Pilot in the second year because they had already obligated most or all of their entitlement funding for that school year. According to SDA officials in the initial five States, many SFAs chose not to participate in the Pilot in the first year because they did not have remaining entitlement funds.

The Pilot offered States and SFAs the flexibility to reallocate entitlement funds to USDA DoD Fresh if they were unable to obtain produce through the Pilot. SDA officials reported that the flexibility encouraged some SFAs to enroll in the Pilot even if they did not have an eligible vendor in their area that could serve them. If they were unable to access a vendor, these SFAs were still able to use unspent entitlement funds in that school year for produce through USDA DoD Fresh. If they did not reallocate unspent Pilot funds, USDA carried over the State's entitlement balance for the next school year.

## 4.5. Monitoring and Reporting

Pilot States, SFAs, and vendors are required to maintain and report on specific information about Pilot orders. Vendors are required to submit invoices for Pilot orders at least monthly to AMS, which then reimburses the vendor. SDAs are required to verify monthly invoice reports with FNS and AMS, which summarize the delivery and pricing information for Pilot products. SDAs and SFAs work together to verify the reports in a process called invoice reconciliation. FNS and AMS send SDAs their respective vendors' monthly invoices, and SDAs and SFAs verify the invoices with product delivery information. SDAs report any discrepancies to FNS and AMS, which make the resulting payment and entitlement adjustments. SDAs are also required to monitor the balance of entitlement funds so that orders do not exceed the amount allocated to the Pilot.

In order to meet these requirements, SDAs established invoice reconciliation processes. In the first implementation year, Pilot invoice reconciliation occurred at the SDA level or the SFA level. Four States reconciled invoices at the SDA level. In these States, the SFA or vendor sent order information to the SDA. The SDA compared this information to the monthly invoice the vendor submitted to AMS. The other States reconciled invoices at the SFA level. SDAs sent information on its Pilot orders to each SFA from the monthly vendor invoices, and the SFA verified the information against its order and delivery records. In the second year of the Pilot, one State changed its process from reconciling at the SFA level to the SDA level to reduce the burden on the SFAs.

According to six of the SDA officials, the invoice reconciliation process was one of the main challenges of the Pilot in both years because it required manual comparison of each item ordered, which was time consuming. Three SDA officials observed that the invoice reconciliation process could have limited the growth of the Pilot because it deterred SFA participation and SDAs would not be able to manage reconciliation with more SFAs. One SDA official also commented that its State might not be able to participate in the Pilot in future school years due to the administrative burden of invoice reconciliation. Two SDA officials reported the invoice reconciliation process was either easy or not overly burdensome because they had sufficient staff and fewer vendors.

There was no consolidated order entry and tracking system for the Pilot. In the third year, the Michigan SDA implemented a third-party vendor system to facilitate seamless ordering, order tracking, reconciliation, and vendor payment. SFAs in that State use the system to order produce through the Pilot, and vendors submit invoice data directly to the SDA and AMS. The SDA uses the system to review, approve, and submit invoices to AMS, which then pays the vendor. According to the SDA official in this State, the system has many benefits, including access to real-time information on orders and payments, error checks to identify duplicate invoices, and flexible invoice entry options to accommodate vendors with different invoicing capabilities. A Federal grant to assist the State with tracking paid for the third-party system for one year, but the funding is not available in the future.

# 5. Impacts of the Pilot

This section describes the impacts of the Pilot on the use of USDA Foods entitlement funds, the cost and quantity of unprocessed fruits and vegetables received, the specific types of fruits and vegetables obtained, orders of local produce, and meal program operation and administration. The section addresses differences in Pilot and other entitlement spending by State and year of the Pilot.[40] Where applicable, the section also compares Pilot spending with that for USDA DoD Fresh and USDA Foods in the eight Pilot States. The discussion focuses on all eight States, but shifts to the five initial States when information is specifically relevant to the first year of the Pilot.

## 5.1. Entitlement Funds Used

### 5.1.1. Pilot Allocation

States allocated varying amounts of entitlement funds to the Pilot. As Table 14 shows, States allocated between $142,170 and $481,696 in the first year and between $227,237 and $2,273,101 in the second year. Allocations for California, Michigan, and New York were among the largest in both years, while Connecticut, Oregon, and Virginia were generally among the lowest. The total amounts allocated depended, in part, on the number of SFAs enrolled in the Pilot and the size and number of school districts within the SFAs. As described in Section 4.4, individual SFAs determined Pilot allocations based on their entitlement funds balance, availability of local eligible vendors, knowledge of eligible vendors' offerings, and produce needs for the year.

**Table 14. Total Amount of Entitlement Funds Allocated to the Pilot**

| State | SY 2014–2015 | SY 2015–2016 | Total |
|---|---|---|---|
| CA | $481,696 | $1,123,753 | $1,605,449 |
| CT | $289,017 | $367,992 | $657,009 |
| MI | $385,356 | $690,759 | $1,076,116 |
| NY | $289,017 | $2,273,101 | $2,562,118 |
| OR | $142,170 | $309,389 | $451,558 |
| VA | $0 | $227,237 | $227,237 |
| WA | $0 | $594,694 | $594,694 |
| WI | $0 | $473,086 | $473,086 |
| **Total** | **$1,587,256** | **$6,060,011** | **$7,647,267** |

Source: Pilot Allocation Summary, SY 2014–2015 and SY 2015–2016.

### 5.1.2. Entitlement Spending Through the Pilot

The Pilot States did not spend all of the entitlement funds they allocated to the Pilot in either year. As Table 15 shows, the five initial Pilot States spent between 7.5 percent and 57.2 percent of their allocated entitlement in the first year. New York spent the lowest proportion (7.5 percent) of its allocated entitlement funds. States did not spend all of their allocated entitlement funds in part because not all enrolled SFAs received deliveries under the Pilot. The initial five States spent substantially more of their allocated entitlement in their second year. The proportion of Pilot-allocated funds used increased between 30.9 and 75.5 percentage points from the first to the second

[40] The study team also examined Pilot spending by SFA size (student enrollment) and geographic setting, but did not identify any meaningful results.

year. The three States that started the Pilot in the second year spent more than half of their Pilot-requested entitlement funds. Wisconsin spent nearly 90 percent of the entitlement funds it allocated to the Pilot.

**Table 15. Amount of Pilot-Allocated Funds Used**

| State | Amount Used (% of Allocated) SY 2014–2015 | Amount Used (% of Allocated) SY 2015–2016 | Percentage Increase in Proportion of Funds Used |
|---|---|---|---|
| CA | $207,310 (43.0%) | $917,333 (81.6%) | 38.6% |
| CT | $101,700 (35.2%) | $407,227 (110.7%) | 75.5% |
| MI | $184,936 (48.0%) | $544,888 (78.9%) | 30.9% |
| NY | $21,818 (7.5%) | $1,595,995 (70.2%) | 62.7% |
| OR | $81,303 (57.2%) | $291,700 (94.3%) | 37.1% |
| VA | N/A | $121,425 (53.4%) | N/A |
| WA | N/A | $397,864 (66.9%) | N/A |
| WI | N/A | $422,947 (89.4%) | N/A |
| **Total** | **$596,878 (37.6%)** | **$4,669,379 (77.5%)** | **39.9%** |

Source: Pilot Vendor/SDA Reports and Entitlement Summary Report, SY 2014–2015 and SY 2015–2016.

### 5.1.3. Spending Across USDA Foods Programs

Across the three programs, Pilot States spent 16.8 percent of their total USDA Foods entitlement funding on unprocessed fruits and vegetables. In the first and second years of the Pilot, Connecticut and Virginia spent the largest proportion of their entitlement funding on unprocessed fruits and vegetables (29 percent and around 28 percent, respectively) in both years. New York's spending increased from 5.7 percent in the first year to 20.1 percent in the second year, due to the broad expansion of the Pilot in the State in the second year and increases in spending through USDA DoD Fresh in New York City. The other five States spent nearly the same proportions and amounts of their entitlement funding each year on unprocessed fruits and vegetables.

SFAs used the remaining 83.2 percent of their entitlement funds on other items for the school lunch menu, including dairy, meats, grains, and processed fruits and vegetables. SFAs plan their entitlement spending according to total needs, not just needs for unprocessed fruits and vegetables. It is difficult to determine if the Pilot had an impact on spending across USDA Foods Programs for two reasons. First, Pilot procurement only represented a small proportion of overall unprocessed fruits and vegetables procured, and the first year of the Pilot was a partial year. Second, the study team did not have information on SFAs' commercial market purchases. As a result, it is not clear if the Pilot led to increased fruit and vegetable procurement by SFAs or a shift from one purchasing mechanism to another.

**Table 16. Entitlement Spent on Unprocessed Fruits and Vegetables Through USDA Foods Programs**

| State | SY 2014–2015 Entitlement Spent on Unprocessed Fruits and Vegetables | SY 2014–2015 % of Total Entitlement Spent on Unprocessed Fruits and Vegetables | SY 2015–2016 Entitlement Spent on Unprocessed Fruits and Vegetables | SY 2015–2016 % of Total Entitlement Spent on Unprocessed Fruits and Vegetables |
|---|---|---|---|---|
| CA | $19,288,062 | 12.3% | $20,328,454 | 12.5% |
| CT | $3,492,604 | 29.0% | $4,098,069 | 29.0% |
| MI | $6,509,108 | 17.4% | $7,287,514 | 18.4% |
| NY | $4,812,011 | 5.7% | $17,311,321 | 20.1% |
| OR | $1,377,056 | 11.0% | $1,342,794 | 9.8% |
| VA | $7,056,949 | 28.4% | $7,523,683 | 28.3% |
| WA | $3,586,105 | 13.4% | $4,233,508 | 15.3% |
| WI | $3,481,109 | 13.6% | $4,161,339 | 16.7% |
| **Total** | **$49,603,004** | **13.0%** | **$66,286,682** | **16.8%** |

Source: Pilot Vendor/SDA Reports, FFAVORS Reports, WBSCM NSLP Delivery Order Status Reports, USDA DoD Fresh Entitlement Reports, SY 2014–2015 and SY 2015–2016.
Note: Amounts include spending on unprocessed fruits and vegetables through the Pilot, USDA DoD Fresh, and USDA Foods.

## 5.2. Total Cost and Quantity of Pilot Produce

### 5.2.1. Total Quantity of Pilot Produce

The pattern of findings on the quantity (pounds) of unprocessed fruits and vegetables obtained through the Pilot was similar to the pattern of findings for the cost of Pilot orders. As Table 17 shows, the total quantity in pounds of unprocessed fruits and vegetables obtained through the Pilot was 692,741 in the first year and nearly 5.8 million in the second year. The total quantity of Pilot orders in pounds increased in all of the initial Pilot States.[41]

**Table 17. Total Quantity of Pilot Produce**

| State | SY 2014–2015 Pounds (% of Pilot Total) | SY 2015–2016 Pounds (% of Pilot Total) |
|---|---|---|
| CA | 226,984 lbs (32.8%) | 1,021,870 lbs (17.6%) |
| CT | 136,090 lbs (19.6%) | 505,209 lbs (8.7%) |
| MI | 194,480 lbs (28.1%) | 602,880 lbs (10.4%) |
| NY | 29,407 lbs (4.2%) | 2,363,870 lbs (40.8%) |
| OR | 105,781 lbs (15.3%) | 491,120 lbs (8.5%) |
| VA | N/A | 114,867 lbs (2.0%) |
| WA | N/A | 315,986 lbs (5.5%) |
| WI | N/A | 374,853 lbs (6.5%) |
| **Total** | **692,741 lbs (100%)** | **5,790,654 lbs (100%)** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.

[41] Appendix H provides information on the quantities of produce States obtained through the Pilot in each year.

### 5.2.2. Per Capita Cost and Volume of Pilot Produce

The cost of the Pilot per student in recipient SFAs varied by State and across Pilot years. As Table 18 shows, recipient SFAs in the five initial States spent between $0.88 and $1.78 per student through the Pilot on unprocessed produce in the first year. The cost of the Pilot per student in the second year increased by two to three times for each State. The increase in per capita spending on the Pilot from the first to the second year suggests that the increase in total spending over time was not only due to increased participation in the Pilot, but because SFAs obtained more produce per child through the Pilot. SFAs also obtained more pounds of produce per child in the second year of the Pilot. Together, States obtained, on average, 1.4 pounds of Pilot produce per child in the first year and 2.9 pounds per child in the second year.

**Table 18. Pilot Spending per Student in Recipient SFAs**

| State | SY 2014–2015 | SY 2015–2016 |
|---|---|---|
| CA | $1.73 | $3.60 |
| CT | $1.78 | $5.31 |
| MI | $0.88 | $1.65 |
| NY | $1.22 | $2.39 |
| OR | $1.12 | $2.23 |
| VA | N/A | $0.60 |
| WA | N/A | $2.53 |
| WI | N/A | $2.04 |
| **Total** | **$1.25** | **$2.32** |

Source: Pilot Vendor/SDA Reports and FNS 742 data, SY 2014–2015 and SY 2015–2016.

### 5.2.3. Pilot Spending Compared to Other Entitlement Spending on Unprocessed Produce

The total cost of unprocessed fruits and vegetables received through the Pilot during the second year accounted for 7.1 percent of the total USDA Foods entitlement funds spent on unprocessed produce through the Pilot, USDA DoD Fresh, and USDA Foods Programs combined. As Table 19 shows, Pilot spending accounted for a relatively small proportion of total USDA Foods entitlement spending on unprocessed fruits and vegetables, but there was considerable variability across States. In the second year, Oregon obtained 21.7 percent of its total unprocessed produce through the Pilot, a larger proportion than any other State. Virginia obtained the smallest proportion of its total unprocessed produce through the Pilot (1.6 percent).

The five initial States combined obtained 1.2 percent of their total unprocessed produce through the Pilot in the first year, and the proportion increased in the second year. The proportion of total unprocessed produce received in California, Connecticut, New York, and Oregon increased more than three times from the first year to the second year. The increase in Michigan was about two and a half times first-year spending. These increases parallel differences between years in the total cost of unprocessed produce received (see Section 5.1.2).

Increases in the proportion of the total cost of unprocessed produce obtained by the first five Pilot States are due to a combination of factors, including increased State, SFA, and vendor participation and changes in the availability of Pilot-eligible products in the second year. Furthermore, Pilot participation occurred in the broader context of USDA Foods and USDA DoD Fresh ordering

patterns, which could have influenced the degree to which States ordered produce under the Pilot. Some SDA officials reported that SFAs used produce obtained through the Pilot to fill gaps in produce availability and variety through other programs. Once States had vendors that could supply the produce that SFAs requested, Pilot spending became easier.

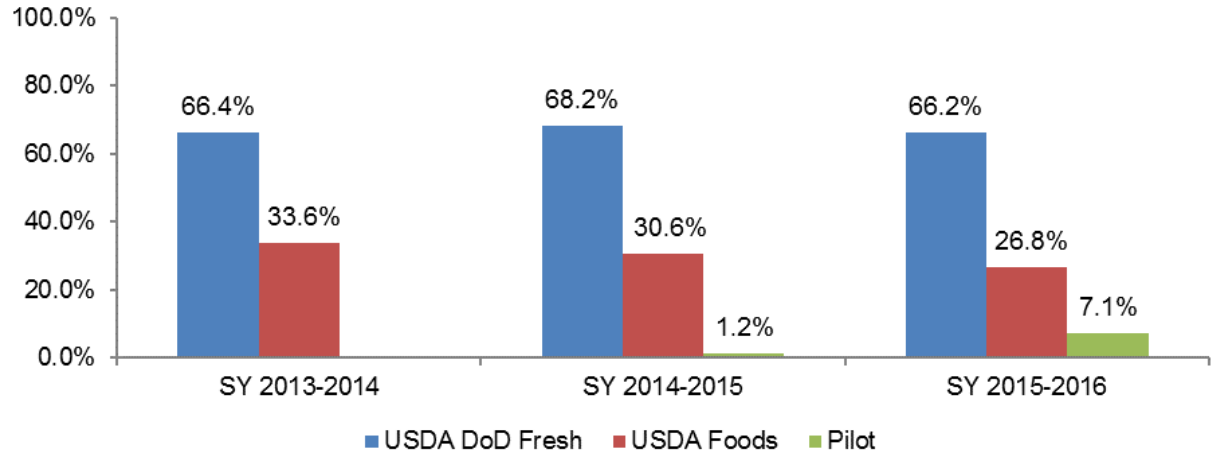
**Table 19. Pilot Spending as a Proportion of Total USDA Foods Unprocessed Fruit and Vegetable Spending**

| State | SY 2014–2015 | SY 2015–2016 |
|---|---|---|
| CA | 1.1% | 4.5% |
| CT | 2.9% | 9.9% |
| MI | 2.8% | 7.5% |
| NY | 0.5% | 9.2% |
| OR | 5.9% | 21.7% |
| VA | N/A | 1.6% |
| WA | N/A | 9.4% |
| WI | N/A | 10.2% |
| **Total** | **1.2%** | **7.1%** |

Source: Pilot Vendor/SDA Reports, FFAVORS Reports, WBSCM NSLP Delivery Order Status Reports, USDA DoD Fresh Entitlement Reports, SY 2014–2015 and SY 2015–2016.
Note: Total USDA Foods spending includes spending on unprocessed fruits and vegetables through the Pilot, USDA DoD Fresh, and USDA Foods.

In both years of the Pilot and the pre-Pilot year, all Pilot States combined obtained the highest proportion of their unprocessed fruits and vegetables through USDA DoD Fresh. As Figure 4 shows, States obtained 66.2 to 68.2 percent of their unprocessed produce through USDA DoD Fresh and 26.8 to 33.6 percent through USDA Foods. This distribution corresponds with the larger variety of unprocessed produce available through USDA DoD Fresh than through USDA Foods. It appears from Figure 4 that States spent less of their USDA Foods entitlement on unprocessed produce through USDA Foods as they spent more through the Pilot. However, without information on SFAs' commercial purchases and USDA Foods and USDA DoD Fresh orders, it is not clear that this change represents a shift between entitlement purchasing mechanisms.

**Figure 4. Entitlement Spent on Unprocessed Fruits and Vegetables by USDA Foods Program and Year**




Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016; FFAVORS Reports and WBSCM NSLP Delivery Order Status Reports, SY 2013–2014, SY 2014–2015, and SY 2015–2016.
Note: Amounts include spending on unprocessed fruits and vegetables through the Pilot, USDA DoD Fresh, and USDA Foods.

States varied in the extent to which they obtained unprocessed produce through USDA DoD Fresh and USDA Foods. Seven States acquired more of the unprocessed produce procured using entitlement funds through USDA DoD Fresh than through USDA Foods. Connecticut, Virginia, and Washington ordered an average of 75 to 86 percent of their unprocessed produce through USDA DoD Fresh across years. California, Michigan, New York, and Oregon ordered an average of 51 to 67 percent of their unprocessed produce through USDA DoD Fresh. Wisconsin was the only State to obtain more of its unprocessed produce on average (53 percent) through USDA Foods than through USDA DoD Fresh. Appendix I provides bar graphs describing each State's total orders across USDA Foods Programs.

## 5.3. Types and Varieties of Unprocessed Fruits and Vegetables

### 5.3.1. Total Pilot Spending on Unprocessed Fruits and Vegetables

States obtained more fruits than vegetables through the Pilot based on total cost.[42] Table 20 shows States spent approximately 71 percent of the total cost of all Pilot orders on fruits and about 29 percent on vegetables. Several factors likely shaped differences in Pilot orders on fruits and vegetables across SFAs, including local or regional availability of different types of produce, types of produce offered by eligible vendors, school produce preferences, and other factors in food purchasing decisions. However, this pattern is not necessarily representative of fruit and vegetable acquisitions by SFAs nationwide. The third School Food Purchase Study reported that 50 percent of school produce purchases are fruits and 50 percent are vegetables.[43]

[42] The ratio of fruits to vegetables by pound was similar to the ratio of fruits to vegetables by total dollar value. Analyses in Section 5 generally focus on dollar value of produce received through the Pilot.
[43] Young, N., Diakova, S., Earley, T., Carnagey, J., Krome, A., & Root, C. (2012, March). *School Food Purchase Study-III: Final Report.* Alexandria, VA: USDA FNS. Retrieved April 12, 2017, from https://fns-prod.azureedge.net/sites/default/files/SFSPIII_Final.pdf.

**Table 20. Pilot Fruit and Vegetable Spending[44]**

| Type | Total Cost | Percent of Total Cost |
|---|---|---|
| Fruits | $3,755,939 | 70.9% |
| Vegetables | $1,540,336 | 29.1% |
| **Total** | **$5,296,275** | **100.0%** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.

As described in Section 2.3.4, the study team categorized the unprocessed fruit and vegetable products based on food groupings from FPED,[45] which align with the 2015 Dietary Guidelines for Americans[46] and the NSLP requirements for school meals.[47] For fruits, FPED includes two general categories relevant to this study: "citrus, melons, and berries" and "other fruits." To support more detailed analyses, the study team further categorized fruit products into seven groups, as Table 21 shows.

States obtained produce in every category, except "beans and peas" (legumes), through the Pilot. As Table 21 shows, States spent more than half of Pilot entitlement funding on core fruits (51.4 percent). The next most common types of produce ordered included dark green vegetables (11.8 percent), other vegetables (8.9 percent), red and orange vegetables (8.1 percent), citrus fruits (7.8 percent), and stone fruits (6.1 percent). Overall, the States ordered much smaller amounts of berries, melons, grapes, other fruits, and starchy vegetables.[48]

[44] All calculations of spending by type exclude an $18.30 invoice credit not attributable to a specific product.

[45] USDA. (n.d.). *Food Patterns Equivalents Database.* Retrieved April 12, 2017, from: https://www.ars.usda.gov/northeast-area/beltsville-md/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/fped-methodology/.

[46] USDA & U.S. Department of Health & Human Services. (2015). *Dietary Guidelines for Americans, 2015–2020.* (8th ed.). Washington, DC: U.S. Government Printing Office. Retrieved July 24, 2017, from https://health.gov/dietaryguidelines/2015.

[47] USDA. (2012, January). *Final Rule Nutrition Standards in the National School Lunch and School Breakfast Programs.* Retrieved April 12, 2017, from: https://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf.
USDA. (n.d.). *Food Buying Guide for School Meal Programs.* Accessed September 8, 2017, from https://www.fns.usda.gov/tn/food-buying-guide-school-meal-programs.

[48] Examples of "other vegetables" include cauliflower, celery, cucumbers, iceberg lettuce, onions, salad mixes, green or yellow peppers, and summer squash. "Other fruits" include pineapples and persimmon.

**Table 21. Pilot Spending by Type of Produce**

| Category | Percent of Total Pilot Spending |
|---|---|
| **Fruits** | **70.9%** |
| Core fruits | 51.4% |
| Citrus | 7.8% |
| Stone fruits | 6.1% |
| Berries | 3.1% |
| Melons | 1.3% |
| Grapes | 1.1% |
| Other fruits | <0.1% |
| **Vegetables** | **29.1%** |
| Dark green vegetables | 11.8% |
| Other vegetables | 8.9% |
| Red and orange vegetables | 8.1% |
| Starchy vegetables | 0.3% |
| **Total** | **100.0%** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. The category "beans and peas" (legumes) is not included in this table because SFAs did not obtain legumes through the Pilot.

### 5.3.2. Types and Varieties of Produce Obtained Through the Pilot

The States obtained 70 specific types of unprocessed fruits and vegetables through the Pilot. Table 22 provides a list of the 24 types of fruits ordered through the Pilot in both years combined.

**Table 22. Types of Fruits Ordered Through the Pilot**

| Category | Types of Fruits |
|---|---|
| Berries | Blackberries, blueberries, cranberries, kiwi, raspberries, strawberries |
| Citrus | Mandarin oranges, oranges, tangelos |
| Grapes | Grapes, raisins |
| Melons | Cantaloupe, honeydew, watermelon |
| Other fruits | Persimmon, pineapples |
| Core fruits | Apples, Asian pears, pears |
| Stone fruits | Apricots, nectarines, peaches, plums, pluots |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.

The States obtained a much larger variety of vegetables than fruits through the Pilot. Table 23 provides a list of the 46 types of vegetables ordered through the Pilot.

**Table 23. Types of Vegetables Ordered Through the Pilot**

| Category | Types of Vegetables |
|---|---|
| Dark green vegetables | Arugula, bok choy, Boston lettuce, broccoli, collards, escarole, kale, leaf lettuce, Lollo lettuce, microgreens, mustard greens, romaine lettuce, salad mix (spring mix, mesclun greens), spinach, summer crisp lettuce, Swiss chard, watercress |
| Other vegetables | Asparagus, beets, Brussels sprouts, cabbage, cauliflower, celery, cucumbers, eggplant, garlic, green beans, iceberg lettuce, leeks, mixed vegetables (coleslaw, pea/carrot mix, pea/carrot/corn mix), mushrooms, onions, other lettuces (unspecified whole or shredded lettuce), radishes, salad mix (unspecified salad blend, romaine blend, kale blend), summer squash (green, spaghetti, yellow, zucchini), sweet peppers (green, yellow, mixed color), turnips |
| Red and orange vegetables | Carrots, mixed vegetables (carrot/yam blend), sweet peppers (red, orange), sweet potatoes, tomatoes, winter squash (acorn, butternut, pumpkin) |
| Starchy vegetables | Corn, white potatoes |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Produce types are included in more than one type when the type includes varieties that clearly belong in more than one category (e.g., red and orange sweet peppers are in the "red and orange vegetable" category, but green and yellow sweet peppers are in the "other vegetables" category). The category "beans and peas" (legumes) is not included in this table because SFAs did not obtain legumes through the Pilot.

### 5.3.3. Pilot Spending by State

All of the Pilot States obtained more fruits than vegetables, but the ratio for each State varied widely. As Table 24 shows, six States—California, Connecticut, Michigan, Oregon, Virginia, and Washington—spent more than 72 percent of their Pilot funds on fruits. New York and Wisconsin spent the least on fruits (59.5 percent and 53.3 percent, respectively). All States except California spent the largest percentage of their Pilot funds on core fruits—mainly apples. California spent less on apples than other States and more on peaches and grapes, and spent more than other States on citrus (16.5 percent) and berries (10.4 percent). Grapes, strawberries, and raspberries are major crops in California and its adjacent State of Oregon. Apart from core fruits, the other States tended to spend higher proportions of their total USDA Foods entitlement funds through the Pilot on dark green vegetables, other vegetables, and red and orange vegetables.[49]

[49] Appendix J provides detailed information on Pilot State spending by types of unprocessed fruits and vegetables.

### Table 24. Pilot Spending by State and Type of Produce

| Category | CA | CT | MI | NY | OR | VA | WA | WI | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Fruits** | **78.0%** | **83.5%** | **72.7%** | **59.5%** | **75.1%** | **94.9%** | **85.5%** | **53.3%** | **70.9%** |
| Core fruits | 20.5% | 61.4% | 65.9% | 48.1% | 74.9% | 82.5% | 85.4% | 47.7% | 51.4% |
| Citrus | 16.5% | 3.9% | 6.8% | 8.3% | 0.0% | 1.8% | 0.1% | 4.7% | 7.8% |
| Stone fruits | 25.3% | 6.6% | 0.0% | 0.0% | 0.0% | 4.4% | 0.0% | 0.0% | 6.1% |
| Berries | 10.4% | 6.7% | 0.0% | 0.1% | 0.0% | 6.2% | 0.0% | 0.9% | 3.1% |
| Melons | 1.4% | 1.5% | 0.0% | 2.8% | 0.1% | 0.0% | 0.0% | 0.0% | 1.3% |
| Grapes | 3.7% | 3.5% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% | 0.0% | 1.1% |
| Other fruits | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | <0.1% |
| **Vegetables** | **22.0%** | **16.5%** | **27.3%** | **40.5%** | **24.9%** | **5.1%** | **14.5%** | **46.7%** | **29.1%** |
| Dark green vegetables | 9.6% | 8.4% | 16.4% | 16.2% | 2.7% | 4.1% | 6.8% | 12.0% | 11.8% |
| Other vegetables | 3.9% | 4.6% | 10.9% | 15.5% | 2.7% | 0.4% | 7.4% | 7.7% | 8.9% |
| Red and orange vegetables | 8.6% | 3.5% | 0.0% | 8.1% | 19.5% | 0.1% | 0.2% | 26.2% | 8.1% |
| Starchy vegetables | 0.0% | 0.0% | 0.0% | 0.8% | 0.1% | 0.5% | 0.0% | 0.8% | 0.3% |
| **Total** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. The category "beans and peas" (legumes) is not in this table because SFAs did not obtain legumes through the Pilot.

### 5.3.4. Change in Pilot Spending Over Time

The five initial States obtained proportionally more vegetables in the second year of the Pilot than in the first year. As Table 25 shows, the percentage of all Pilot funds spent on vegetables increased from 17.8 percent in the first year to 30.5 percent in the second year. The shift may be due to increased variety of produce available through the Pilot. SDA officials reported that the Pilot offered a limited variety of produce in the first year because of a small number of vendors with a limited number of eligible products to sell through Pilot, but the Pilot offered more variety over time as new vendors became eligible for the Pilot and eligible vendors expanded offerings. As Section 3.3.1 reported, the number of eligible vendors increased from the first year to the second year. SDA officials also reported that eligible vendors applied to have more products approved for sale through the Pilot over time. Other factors that could influence spending over time include changes in SFA funding for school meals and changes in how SFAs prioritize funding across produce funding sources.

### Table 25. Pilot Fruit and Vegetable Spending by Year

| | SY 2014–2015 | | SY 2015–2016 | |
|---|---|---|---|---|
| Category | Cost | Percent of Total Cost | Cost | Percent of Total Cost |
| Fruits | $490,460 | 82.2% | $3,265,479 | 69.5% |
| Vegetables | $106,418 | 17.8% | $1,433,918 | 30.5% |
| **Total** | **$596,878** | **100.0%** | **$4,699,397** | **100.0%** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.

In the second year, the States spent a larger proportion of their Pilot funds on vegetables in each category than the previous year. The percentage of funding spent on dark green vegetables nearly doubled, as Table 26 shows. Most of the rest of the increases in spending on vegetables were for other vegetables and red and orange vegetables. The largest decrease in spending on fruit was in the stone fruits category, but the proportion of citrus fruits and core fruits also decreased.

**Table 26. Pilot Spending by Type of Produce and Year**

| Category | SY 2014–2015 | SY 2015–2016 |
|---|---|---|
| **Fruits** | **82.1%** | **69.5%** |
| Core fruits | 52.8% | 51.2% |
| Stone fruits | 18.6% | 4.5% |
| Citrus | 9.2% | 7.6% |
| Melons | 1.0% | 1.3% |
| Berries | 0.3% | 3.5% |
| Grapes | 0.2% | 1.3% |
| Other fruits | 0.0% | 0.0% |
| **Vegetables** | **17.9%** | **30.5%** |
| Dark green vegetables | 7.1% | 12.4% |
| Other vegetables | 5.2% | 9.3% |
| Red and orange vegetables | 5.5% | 8.4% |
| Starchy vegetables | 0.0% | 0.3% |
| **Total** | **100.0%** | **100.0%** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. The category "beans and peas" (legumes) is not in this table because SFAs did not obtain legumes through the Pilot.

Four of the initial five States obtained more vegetables in the second year of the Pilot than they did in the first year. As Table 27 shows, Connecticut spent the least on vegetables in the first year of the Pilot (0.4 percent). In the second year of the Pilot, Connecticut spent almost 21 percent of its Pilot funds on vegetables. New York was the only State to obtain a higher proportion of vegetables (59.5 percent) than fruits (40.5 percent) in the first year of the Pilot. In the second year, New York's spending on fruits increased to 59.7 percent of all spending. This change in New York is partly due to the substantial increase in SFA participation in the second year of the Pilot.

**Table 27. Proportion of Pilot Fruit and Vegetable Spending by State and Year**

| State | SY 2014–2015 | | SY 2015–2016 | |
|---|---|---|---|---|
| | Fruits | Vegetables | Fruits | Vegetables |
| CA | 81.0% | 19.0% | 77.3% | 22.7% |
| CT | 99.6% | 0.4% | 79.5% | 20.5% |
| MI | 80.3% | 19.7% | 70.1% | 29.9% |
| NY | 40.5% | 59.5% | 59.7% | 40.3% |
| OR | 78.7% | 21.3% | 74.1% | 25.9% |
| VA | N/A | N/A | 94.9% | 5.1% |
| WA | N/A | N/A | 85.5% | 14.5% |
| WI | N/A | N/A | 53.3% | 46.7% |
| **Total** | **82.1%** | **17.9%** | **69.5%** | **30.5%** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value.

Patterns shifted for each State due to the increase in variety and availability of produce in the Pilot over time. While overall spending on fruits decreased over time for four of the initial States, some types of fruits made up a higher proportion of Pilot spending in the second year. For example, the proportion of funds spent on berries, grapes, and core fruits increased among California SFAs. In New York, where overall spending on vegetables decreased in the second year, the proportion of red and orange vegetables increased. In addition, in the second year, three States obtained items in produce groups from which they did not obtain items in the first year. For example, Connecticut obtained items in new groups in the second year, including berries, citrus fruits, melons, grapes, dark green vegetables, and starchy vegetables. New York obtained items in new categories, including berries, melons, and grapes; and Oregon obtained items in the melons and starchy vegetables categories. Table 28 shows the changes in the proportions of types of fruits and vegetables obtained through the Pilot from the first year to the second year in each State.

**Table 28. Change in Proportion of Fruits and Vegetables Obtained Through the Pilot From SY 2014–2015 to SY 2015–2016**

| Category | CA | CT | MI | NY | OR |
|---|---|---|---|---|---|
| **Fruits** | | | | | |
| Berries | 11.9% | 8.3% | N/A | 0.1% | N/A |
| Citrus | -2.0% | 4.9% | -2.9% | 4.4% | N/A |
| Melons | -1.9% | 1.8% | N/A | 2.8% | 0.2% |
| Core fruits | 18.4% | -46.4% | -7.2% | 11.8% | -4.8% |
| Grapes | 3.7% | 4.4% | N/A | 0.1% | N/A |
| Other fruits | 0.2% | N/A | N/A | N/A | N/A |
| Stone fruits | -34.1% | 6.8% | N/A | N/A | N/A |
| **Vegetables** | | | | | |
| Dark green vegetables | 3.5% | 10.4% | 6.9% | -12.8% | 1.7% |
| Other vegetables | -0.1% | 5.4% | 3.3% | -9.6% | 1.0% |
| Red and orange vegetables | 0.3% | 4.2% | N/A | 3.3% | 1.9% |
| Starchy vegetables | N/A | <0.1% | N/A | -0.2% | 0.1% |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. The category "beans and peas" (legumes) is not in this table because SFAs did not obtain legumes through the Pilot.

### 5.3.5. Top-Ranking Pilot Fruits and Vegetables

The top five products obtained through the Pilot accounted for 70.1 percent of all spending. Apples alone were 45.2 percent of Pilot spending. Apples grow in each of the Pilot States and are a popular produce item for students. romaine lettuce was the next most popular product, at 8.4 percent, followed by oranges (6.5 percent), pears (5.8 percent), and salad mix (4.2 percent). Table 29 and Table 30 show the ten most-ordered fruits and vegetables by proportion of total Pilot spending. Many top products, especially apples, romaine lettuce, oranges, pears, salad mix, carrots, and tomatoes, are products SDA officials specifically highlighted as popular in schools.

**Table 29. Top-Ranking Types of Fruits Obtained Through the Pilot**

| Type of Fruit | % of Total Pilot Spending |
|---|---|
| Apples | 45.2% |
| Oranges | 6.5% |
| Pears | 5.8% |
| Strawberries | 2.3% |
| Nectarines | 2.2% |
| Peaches | 1.8% |
| Plums | 1.3% |
| Watermelon | 1.0% |
| Grapes | 0.7% |
| Tangelos | 0.7% |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value.

### Table 30. Top-Ranking Types of Vegetables Obtained Through the Pilot

| Type of Vegetable | % of Total Pilot Spending |
|---|---|
| Romaine lettuce | 8.4% |
| Salad mix | 4.2% |
| Carrots | 4.1% |
| Tomatoes | 2.5% |
| Broccoli | 1.5% |
| Other lettuces | 1.5% |
| Mixed vegetables | 1.3% |
| Spinach | 1.1% |
| Cucumbers | 0.9% |
| Sweet peppers | 0.8% |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. "Other lettuces" are shredded and whole lettuces without a specific variety identified in the product description.

The top-ranking fruits and vegetables were similar across years for the five initial Pilot States, as Table 31 and Table 32 show. Apples were the top-ranking product in both years, and five other fruits (i.e., pears, nectarines, oranges, peaches, and watermelon) were among the top ten in both years. The three top-ranking vegetables (i.e., carrots, romaine lettuce, and salad mix) were the same across years, although their rankings shifted. Four other vegetable products (i.e., broccoli, other lettuces, spinach, and tomatoes) were among the top ten in both years.[50]

### Table 31. Top-Ranking Types of Fruits Obtained Through the Pilot by Year

| SY 2014–2015 | | SY 2015–2016 | |
|---|---|---|---|
| Type of Fruit | % of Total Pilot Spending | Type of Fruit | % of Total Pilot Spending |
| Apples | 35.6% | Apples | 46.5% |
| Pears | 16.1% | Oranges | 6.2% |
| Nectarines | 8.7% | Pears | 4.4% |
| Oranges | 8.3% | Strawberries | 2.5% |
| Peaches | 3.6% | Peaches | 1.6% |
| Apricots | 3.6% | Nectarines | 1.4% |
| Pluots | 2.0% | Plums | 1.3% |
| Asian pears | 1.1% | Watermelon | 1.0% |
| Watermelon | 1.0% | Grapes | 0.8% |
| Mandarin oranges | 1.0% | Tangelos | 0.8% |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value.

[50] Appendix K provides detail on the top-ranking types of fruits and vegetables obtained by each State through the Pilot in each year.

**Table 32. Top-Ranking Types of Vegetables Obtained Through the Pilot by Year**

| SY 2014–2015 | | SY 2015–2016 | |
|---|---|---|---|
| Type of Vegetable | % of Total Pilot Spending | Type of Vegetable | % of Total Pilot Spending |
| Carrots | 5.3% | Romaine lettuce | 8.9% |
| Romaine lettuce | 4.6% | Salad mix | 4.3% |
| Salad mix | 3.5% | Carrots | 3.9% |
| Spinach | 1.3% | Tomatoes | 2.8% |
| Other lettuces | 1.2% | Broccoli | 1.6% |
| Broccoli | 0.4% | Other lettuces | 1.5% |
| Kale | 0.3% | Mixed vegetables | 1.4% |
| Celery | 0.3% | Spinach | 1.1% |
| Cauliflower | 0.2% | Cucumbers | 1.0% |
| Tomatoes | 0.2% | Sweet peppers | 0.9% |

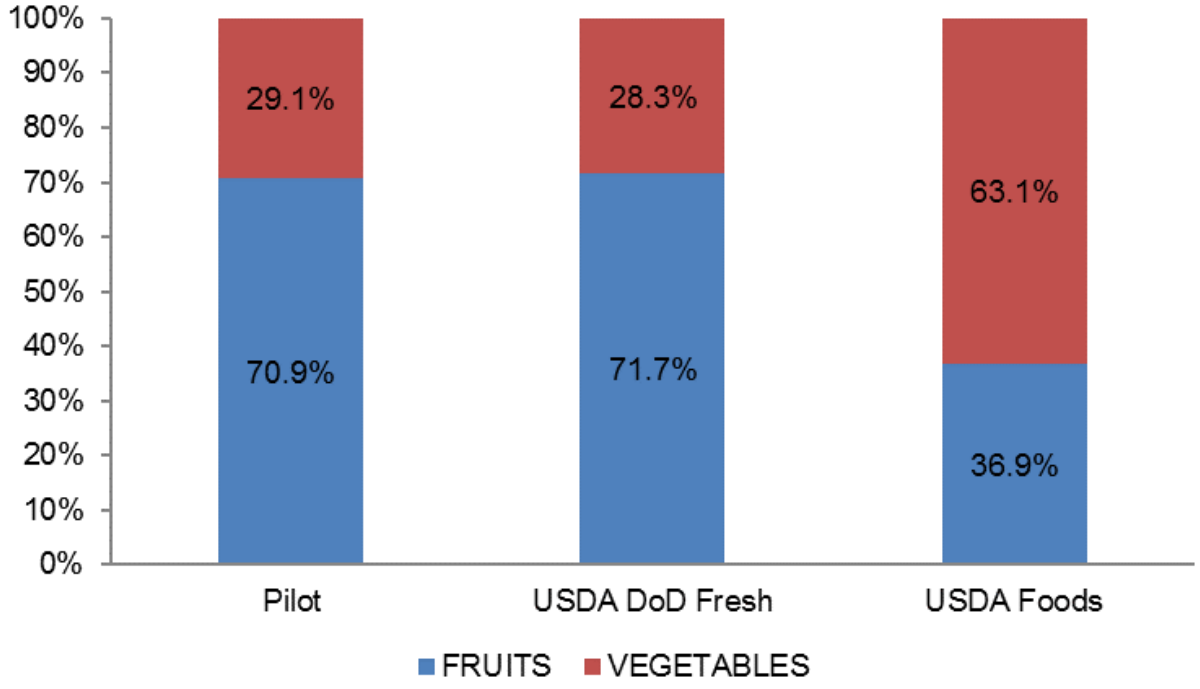
Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. "Other lettuces" are shredded and whole lettuces without a specific variety identified in the product description.

### 5.3.6. Comparison of Types and Varieties of Produce by USDA Foods Program

The relative proportions of fruits and vegetables obtained through the Pilot were more similar to the Statewide pattern for USDA DoD Fresh than to the Statewide pattern for the USDA Foods Program.[51] As Figure 5 shows, States spent a greater percentage of Pilot funds on fruits than vegetables through the Pilot and USDA DoD Fresh, but spent a greater proportion on vegetables than fruits through the USDA Foods Program. Fruit comprised more than two-thirds of spending under the Pilot and USDA DoD Fresh and less than 40 percent of spending under the USDA Foods Program.

[51] As Section 2.3.5 describes, USDA DoD Fresh and USDA Foods data were aggregated at the State level.

## Figure 5. Shares of Unprocessed Fruits and Vegetables by USDA Foods Program




Source: Pilot Vendor/SDA Reports, FFAVORS Reports and WBSCM NSLP Delivery Order Status Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. Results cover the two-year Pilot period. Amounts include spending on unprocessed fruits and vegetables through the Pilot, USDA DoD Fresh, and USDA Foods.

Pilot spending on produce was also more similar to Statewide USDA DoD Fresh spending than to Statewide USDA Foods spending for the two-year period when broken down by fruit and vegetable types. However, Pilot States obtained a higher proportion of core fruits, stone fruits, dark green vegetables, and other vegetables than the Statewide proportions for the USDA DoD Fresh and USDA Foods Programs, as Table 33 shows. A key difference between Statewide USDA Foods produce spending and spending through the other USDA Foods Programs is that nearly one-third of Statewide USDA Foods orders were of starchy vegetables, whereas starchy vegetables were a small proportion of Pilot spending and Statewide USDA DoD Fresh spending.

## Table 33. Types of Unprocessed Fruits and Vegetables by USDA Foods Program

| Category | Pilot | USDA DoD Fresh | USDA Foods |
|---|---|---|---|
| **Fruits** | **70.9%** | **71.7%** | **36.9%** |
| Berries | 3.1% | 4.2% | 11.8% |
| Citrus | 7.8% | 12.3% | 0.1% |
| Melons | 1.3% | 1.3% | 0.0% |
| Core fruits | 51.4% | 46.3% | 14.8% |
| Grapes | 1.1% | 5.2% | 9.9% |
| Other fruits | 0.0% | 0.1% | 0.0% |
| Stone fruits | 6.1% | 2.4% | 0.2% |
| **Vegetables** | **29.1%** | **28.3%** | **63.1%** |
| Dark green vegetables | 11.8% | 6.0% | 16.4% |
| Other vegetables | 8.9% | 8.1% | 4.6% |
| Red and orange vegetables | 8.1% | 13.3% | 9.9% |
| Starchy vegetables | 0.3% | 1.0% | 31.8% |
| Beans and peas | 0.0% | 0.0% | 0.4% |

Source: Pilot Vendor/SDA Reports, FFAVORS Reports and WBSCM NSLP Delivery Order Status Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. Results cover the two-year Pilot period. There were no sales of "beans and peas" (legumes) in the USDA DoD Fresh Program in Pilot States or through the Pilot in the time period covered. Amounts include spending on unprocessed fruits and vegetables through the Pilot, USDA DoD Fresh, and USDA Foods.

The Pilot, USDA DoD Fresh, and USDA Foods Programs offer both unique and complementary items. The Venn diagram in Figure 6 shows the unprocessed products obtained through the Pilot and Statewide through the USDA DoD Fresh and USDA Foods Programs. Through the Pilot, States were able to obtain ten unique unprocessed product types otherwise not acquired in their States through the USDA DoD Fresh or USDA Foods Programs in SY 2013–2014, SY 2014–2015, or SY 2015–2016. The types of foods at the "food group" level in the produce classification scheme (Appendix D) served as the basis for the analysis for Figure 6. At the level of varieties or types of produce within a food group ("variety group"), States obtained 42 varieties of produce that they did not acquire through the USDA Foods or USDA DoD Fresh Programs. In addition to the ten types listed in the diagram, the varieties included:

- 17 varieties of apples (Ambrosia, Braeburn, Buckeye, Cameo, Cortland, Crispin, Ginger Gold, Idared, Jonagold, Jonathan, Liberty, Macoun, Melrose, Paula, Paula Mac, Rome, and Tydeman).
- Three varieties of pears (Packhams, green Anjou, Sunsprite).
- Three varieties of sweet peppers (orange, yellow, mixed color).
- Three varieties of mixed vegetables (carrot/yam mix, pea/carrot mix, pea/carrot/corn/green bean mix).
- Specific varieties of mandarin oranges (Page), mushrooms (Portobello), onions (jumbo), oranges (Valencia), pluots (green), salad mix (mesclun greens), tangelo (Minneola), and squash (pumpkin).

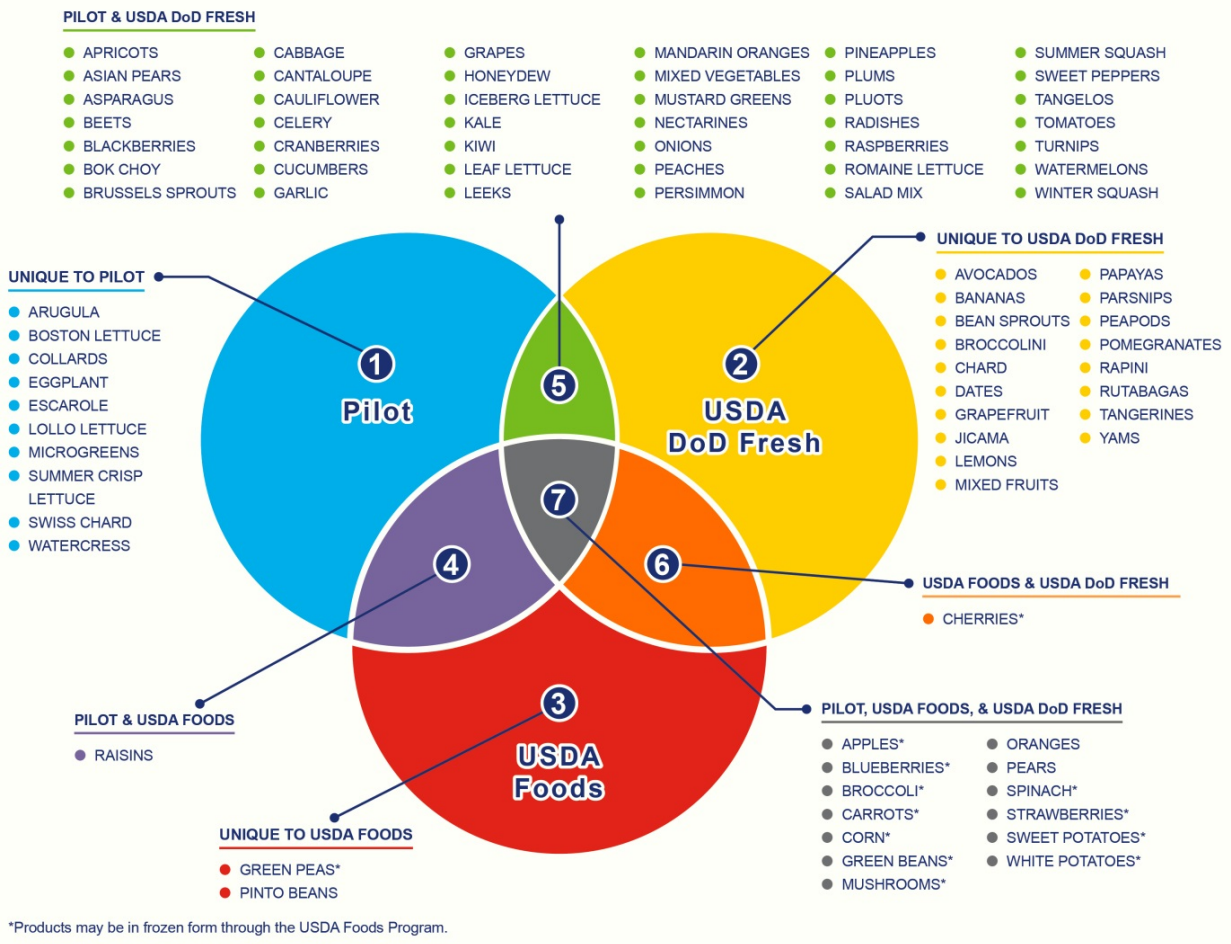
As Figure 6 shows, a large number of Pilot products overlap with products acquired through USDA DoD Fresh at the State level. However, not all Pilot recipient SFAs obtained produce through USDA DoD Fresh. In addition, not all USDA DoD Fresh products are available in every location; the offerings are dependent on the vendor. Only 13.5 percent of recipient SFAs (n=59) also participated in USDA DoD Fresh in SY 2014–2015 or SY 2015–2016. Two States (Michigan and New York) had no Pilot recipient SFAs that participated in USDA DoD Fresh during this time period.[52] The other six States ranged from 20 percent (Oregon) to 100 percent (Connecticut) of recipient SFAs participating in USDA DoD Fresh. SFAs that used both the Pilot and USDA DoD Fresh obtained many of the same products through both programs. These SFAs acquired about 50 types of unprocessed produce through both programs, with ten products unique to the Pilot.

The Pilot offered SFAs that did not participate in USDA DoD Fresh an opportunity to acquire a wide variety of produce with USDA Foods entitlement funds. SFAs that did not participate in USDA DoD Fresh obtained 48 types of unprocessed produce that they did not obtain Statewide through USDA Foods. The individual States acquired between five (Michigan and Virginia) and 36 (New York) unique products. At the variety level, SFAs obtained more than 100 specific varieties of unprocessed produce through the Pilot. In addition, States with fewer than half of recipient SFAs participating in USDA DoD Fresh accounted for the majority—64 to 100 percent—of Pilot spending.

These findings correspond with feedback from some SDA officials, who noted that the Pilot was an especially important asset for SFAs that did not participate in USDA DoD Fresh. "I had one specific school district in … a fairly remote area who has been waiting to get DoD [sic] for three years… One of the vendors that got on the Pilot happens to drive through her town and… she was able to take her entitlement money—this district wanted to use $5,000 for the last three years and she wasn't able to do it—[and] put it in the Pilot. That district saw a real balance of produce and the array of what she offered her kids went way up. That's an example of how a more remote school district benefited from the program." Another SDA official provided a quote from an SFA that did not participate in USDA DoD Fresh, submitted to the SDA official by email: "I only have good things to say about the program. It has enabled us to buy fresh produce throughout the year, including fresh pears all year long and fresh organic produce... This has allowed us to keep a steady supply of fresh local produce in our schools and has been a great use of our commodity dollars. We love the program."

[52] In Michigan, the SDA official reported that USDA DoD Fresh orders might not reflect the name of the SFA placing the order because orders were often placed by the four food service agencies in the State. The New York SDA official reported that most SFAs in the State did not plan to participate in USDA DoD Fresh because they felt it did not meet their needs due to distribution logistics.

## Figure 6. Unprocessed Produce Obtained Across USDA Foods Programs




Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016; FFAVORS Reports and WBSCM NSLP Delivery Order Status Reports, SY 2013–2014, SY 2014–2015, and SY 2015–2016.
Note: Based on comparison of types of unprocessed produce obtained through the Pilot, USDA DoD Fresh, and USDA Foods in SY 2013–2014, SY 2014–2015, and SY 2015–2016. The figure is not intended to represent the scale of sales through each USDA Foods program. For information on entitlement spending on unprocessed produce by USDA Foods program in SY 2013–2014, SY 2014–2015, and SY 2015–2016, see Figure 4.

These results suggest that the Pilot allowed SFAs to acquire unique varieties of unprocessed produce that they did not obtain through the other USDA Foods Programs. These results should be viewed with caution, however, given the inconsistencies in the level of product detail provided across programs and vendors. In some cases, vendors identify specific varieties or cultivars (e.g., Braeburn apples), but in other cases, vendors may provide a more general code (e.g., apples). As a result, a product might appear to be unique to a program because another program did not identify the same product to the same level of specificity. The analysis could also overlook unique products because varieties were not specified. Another potential concern is that some unprocessed produce items offered through the USDA Foods Program, such as blueberries, are only offered in frozen

form, as Figure 6 indicated.[53] The study team addressed this in Figure 6 by identifying products that may be offered in frozen form through the USDA Foods Program.

### 5.3.7. Cost per Unit of Unprocessed Produce Obtained Through the Pilot and USDA DoD Fresh

Most of the same unprocessed fruits and vegetables obtained through the Pilot were also available through USDA DoD Fresh. However, the kinds of unprocessed produce acquired under the Pilot and their cost relative to USDA DoD Fresh (Statewide) varied by product, State, and year. Table 34 shows the top types of unprocessed fruits and vegetables ordered through the Pilot in each State by school year, with the cost per pound through the Pilot and the difference between the cost per pound in the two programs (controlling for seasonality).[54] Overall, the average unit prices of the top five types of produce acquired through the Pilot were similar in both years, suggesting that there was not wide variation in the cost of produce in the Pilot across years.

Of the 25 products listed in this table for SY 2014–2015, 21 products were available through both the Pilot and USDA DoD Fresh. Eleven of those products had a higher cost per unit through the Pilot than in USDA DoD Fresh, while the remaining ten had a lower cost per unit. In Connecticut, four of five products had a higher cost per unit in the Pilot than in USDA DoD Fresh; in New York, four of five products had a lower cost per unit in the Pilot. The cost of products through USDA DoD Fresh contains administrative fees, including the cost of procurement, whereas the Pilot costs do not. This difference could account for some of the differences in cost per unit, along with regional, seasonal, and vendor pricing variations.

[53] The USDA Foods Program offers six products in fresh form: apples, carrots, oranges, pears, potatoes, and sweet potatoes. Fresh carrots were offered in SY 2013–2014 and SY 2014–2015, but not in SY 2015–2016.
[54] Using delivery year and month as proxy.

## Table 34. Comparison of Cost per Unit in the Pilot and USDA DoD Fresh for the Five Top-Ranking Products Ordered by State and Year

| State | Rank | SY 2014–2015 Type | SY 2014–2015 Pilot Cost per Unit ($/lb) | SY 2014–2015 USDA DoD Fresh Cost per Unit ($/lb) | SY 2014–2015 Difference | SY 2015–2016 Type | SY 2015–2016 Pilot Cost per Unit ($/lb) | SY 2015–2016 USDA DoD Fresh Cost per Unit ($/lb) | SY 2015–2016 Difference |
|---|---|---|---|---|---|---|---|---|---|
| CA | 1 | Nectarines | $1.13 | $0.87 | $0.25 | Apples | $0.72 | $0.88 | -$0.16 |
| | 2 | Oranges | $0.68 | $1.25 | -$0.57 | Oranges | $0.51 | $1.33 | -$0.82 |
| | 3 | Apricots | $1.14 | N/A | N/A | Strawberries | $2.59 | $2.38 | $0.21 |
| | 4 | Peaches | $1.14 | $0.85 | $0.30 | Carrots | $2.25 | $1.24 | $1.01 |
| | 5 | Carrots | $1.03 | $1.36 | -$0.33 | Pears | $0.63 | $0.71 | -$0.09 |
| CT | 1 | Apples | $0.66 | $0.96 | -$0.30 | Apples | $0.69 | $0.85 | -$0.17 |
| | 2 | Pears | $0.88 | $0.80 | $0.07 | Pears | $0.74 | $0.74 | -$0.01 |
| | 3 | Nectarines | $1.35 | $0.95 | $0.40 | Strawberries | $3.79 | $2.56 | $1.23 |
| | 4 | Peaches | $0.96 | $0.86 | $0.11 | Romaine lettuce | $1.52 | $1.22 | $0.30 |
| | 5 | Sweet peppers | $1.24 | $1.02 | $0.21 | Oranges | $0.57 | $0.64 | -$0.07 |
| MI | 1 | Apples | $1.28 | $0.97 | $0.31 | Apples | $1.34 | $0.93 | $0.41 |
| | 2 | Romaine lettuce | $1.16 | N/A | N/A | Romaine lettuce | $1.13 | $2.33 | -$1.19 |
| | 3 | Oranges | $0.40 | $1.22 | -$0.82 | Salad mix | $0.66 | $5.15 | -$4.49 |
| | 4 | Salad mix | $0.66 | N/A | N/A | Oranges | $0.38 | $1.27 | -$0.89 |
| | 5 | Other lettuces | $0.64 | N/A | N/A | Other lettuces | $0.62 | $0.80 | -$0.18 |
| NY | 1 | Apples | $0.53 | $1.22 | -$0.70 | Apples | $0.64 | $1.25 | -$0.62 |
| | 2 | Romaine lettuce | $1.57 | $1.49 | $0.08 | Romaine lettuce | $1.51 | $1.68 | -$0.17 |
| | 3 | Salad mix | $1.65 | $2.27 | -$0.62 | Oranges | $0.56 | $1.16 | -$0.59 |
| | 4 | Other lettuces | $0.85 | $1.09 | -$0.24 | Salad mix | $1.55 | $1.99 | -$0.43 |
| | 5 | Spinach | $3.72 | $1.43 | $2.29 | Tomatoes | $1.19 | $1.60 | -$0.42 |
| OR | 1 | Pears | $0.80 | $0.57 | $0.23 | Apples | $0.60 | $0.51 | $0.09 |
| | 2 | Apples | $0.58 | $0.51 | $0.06 | Pears | $0.56 | $0.51 | $0.05 |
| | 3 | Carrots | $0.91 | $1.11 | -$0.20 | Carrots | $0.79 | $1.04 | -$0.25 |

| State | Rank | SY 2014–2015 Type | SY 2014–2015 Pilot Cost per Unit ($/lb) | SY 2014–2015 USDA DoD Fresh Cost per Unit ($/lb) | SY 2014–2015 Difference | SY 2015–2016 Type | SY 2015–2016 Pilot Cost per Unit ($/lb) | SY 2015–2016 USDA DoD Fresh Cost per Unit ($/lb) | SY 2015–2016 Difference |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | Cauliflower | $2.23 | $2.06 | $0.17 | Tomatoes | $1.96 | $2.21 | -$0.25 |
| | 5 | Broccoli | $1.39 | $1.48 | -$0.09 | Sweet peppers | $2.93 | $0.87 | $2.06 |
| VA | 1 | | | | | Apples | $0.86 | $1.03 | -$0.17 |
| | 2 | | | | | Pears | $0.94 | $1.02 | -$0.08 |
| | 3 | | | | | Raspberries | $6.86 | N/A | N/A |
| | 4 | | | | | Blackberries | $6.10 | N/A | N/A |
| | 5 | | | | | Plums | $1.24 | $1.34 | -$0.09 |
| WA | 1 | | | | | Apples | $2.16 | $0.81 | $1.35 |
| | 2 | | | | | Salad mix | $0.54 | $1.28 | -$0.74 |
| | 3 | | | | | Romaine lettuce | $0.74 | $1.25 | -$0.51 |
| | 4 | | | | | Broccoli | $0.62 | $1.39 | -$0.77 |
| | 5 | | | | | Cauliflower | $1.91 | $1.87 | $0.04 |
| WI | 1 | | | | | Apples | $1.24 | $1.43 | -$0.19 |
| | 2 | | | | | Mixed vegetables | $1.42 | $2.72 | -$1.30 |
| | 3 | | | | | Carrots | $0.76 | $2.77 | -$2.01 |
| | 4 | | | | | Romaine lettuce | $1.18 | $2.26 | -$1.08 |
| | 5 | | | | | Oranges | $0.38 | $1.78 | -$1.40 |

Sources: Pilot Vendor/SDA Reports and FFAVORS Reports, SY 2014–2015 and SY 2015–2016.
Note: Virginia, Washington, and Wisconsin did not participate in the Pilot in SY 2014–2015. The corresponding cells are blank in this table. “Other lettuces” are shredded and whole lettuces without a specific variety identified in the product description.

## 5.4. Form of Unprocessed Fruits and Vegetables

### 5.4.1. Form of Produce Obtained Through the Pilot

States obtained nearly all Pilot produce in fresh form (99.5 percent) rather than other forms, such as dried or frozen. States spent 60.2 percent of their Pilot funds on whole produce. Of the 60.2 percent spent on fresh whole produce, 86.4 percent was on fruit—mainly apples, pears, and oranges—and 13.6 percent on vegetables—mainly lettuces, tomatoes, and cucumbers. States used 39.3 percent of their Pilot funds on fresh cut produce. Of the 39.3 percent spent on fresh cut produce, 47.2 percent was on fruits—mainly apple slices—and 52.9 percent was on vegetables—mainly carrots, lettuces, and salad mixes.

The emphasis on fresh produce in the Pilot was expected. While some frozen produce is included in the Pilot definition of unprocessed, a wide variety of frozen fruits and vegetables are available through the USDA Foods Program. Discussions with SDA officials suggest that SFAs focused their efforts on procuring fresh produce for the Pilot. The small amount of frozen products included mainly corn, blueberries, and mixed vegetables and the dried products were all raisins.

**Table 35. Form of Produce Obtained Through the Pilot by Year**

| Form | SY 2014–2015 | | SY 2015–2016 | | Total Pilot Spending | |
|---|---|---|---|---|---|---|
| | Total Cost | Percent of Total Cost | Total Cost | Percent of Total Cost | Total Cost | Percent of Total Cost |
| Dried | $1,274 | 0.2% | $20,003 | 0.4% | $21,277 | 0.4% |
| Fresh cut | $193,412 | 32.4% | $1,890,558 | 40.2% | $2,083,970 | 39.3% |
| Fresh whole | $402,192 | 67.4% | $2,783,803 | 59.2% | $3,185,994 | 60.2% |
| Frozen | $0 | 0.0% | $4,914 | 0.1% | $4,914 | 0.1% |
| **Total** | **$596,878** | **100.0%** | **$4,699,379** | **100.0%** | **$5,296,257** | **100.0%** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: This analysis excludes $2,188 in products that did not have a specified form. These products were "mixed vegetables" without a specified form.

Fresh cut produce is of particular interest because this form often requires minimal preparation (e.g., packaged salad mixes, chopped carrots) or is generally easier to serve and eat, as in the case of bagged sliced apples. As noted, 39.3 percent of Pilot produce was fresh cut. The proportion of Pilot produce that was fresh cut increased from 32.4 percent in the first year to 40.2 percent in the second year, suggesting the importance of fresh cut produce to the meal programs of recipient SFAs. Data also suggest Pilot States had access to a wider variety of fresh cut produce through the Pilot over time. States obtained several new products in fresh cut form in the second year, including acorn squash, kale salad mix, and red onions.

In addition, four of the five initial States—California, Connecticut, Michigan, and Oregon—acquired a higher proportion of fresh cut produce over time. Specific items included broccoli, cauliflower, celery, coleslaw, green cabbage, and several types of lettuce and salad blends. Connecticut did not obtain any fresh cut produce in the first year, but fresh cut produce was eight

percent of the State's Pilot spending in the second year. Appendix L includes more detail on the form and type of each State's Pilot produce.

### 5.4.2. Comparison of Form of Produce Obtained by USDA Foods Program

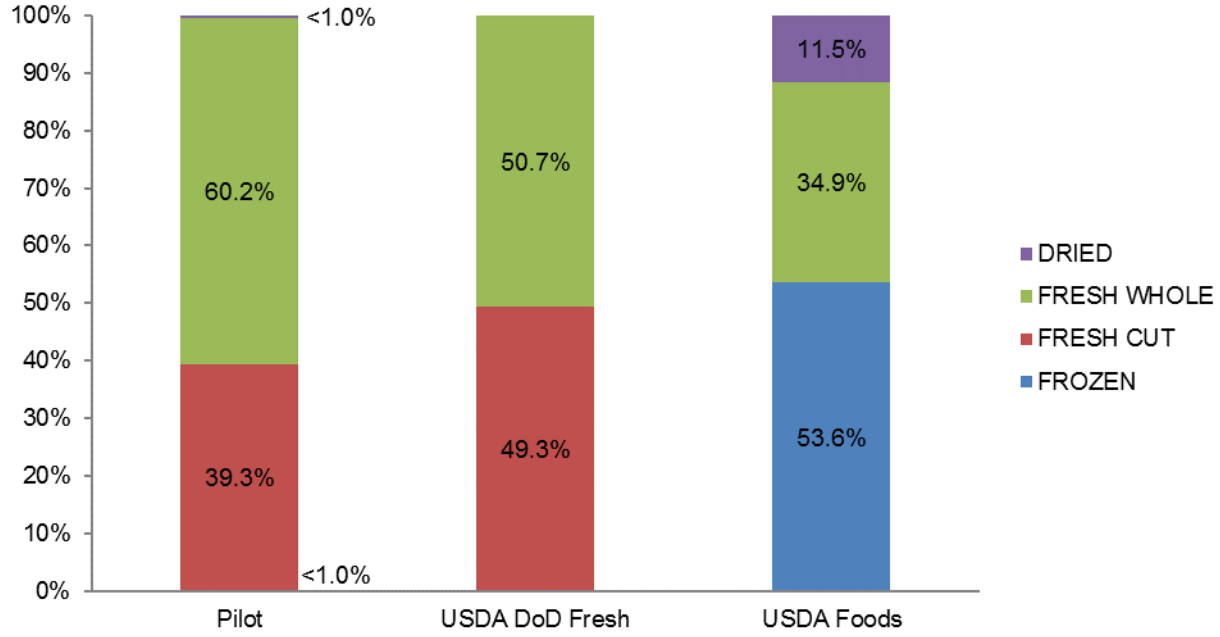
Across the Pilot, USDA DoD Fresh, and USDA Foods Programs, Pilot SFAs obtained fresh, frozen, and dried unprocessed produce. As Figure 7 shows, the form of produce acquired through the Pilot was more similar to produce acquired through USDA DoD Fresh than through USDA Foods. More than half of Statewide unprocessed produce spending through USDA DoD Fresh and the Pilot was on fresh-whole produce. SFAs obtained little frozen or dried produce through the Pilot and no frozen or dried produce through USDA DoD Fresh because only fresh products are offered through USDA DoD Fresh. The major differences between USDA Foods and the other two programs were that more than half of unprocessed products acquired through USDA Foods were frozen and more than 11 percent were dried (mainly raisins). USDA Foods Program spending included less fresh produce than the other two programs. Some fresh products obtained through the USDA Foods Program may have been further processed before reaching the recipient agency.[55]

The different offerings and benefits of the USDA Foods Programs inform SFA ordering patterns across programs. Each program offers different forms of unprocessed products as well as different distribution mechanisms. With its focus on large volumes for large-scale distribution, the USDA Foods Program tends to offer products with a longer shelf life that transport easily. As a result, SFAs may look to USDA Foods for more bulk produce items that store well, such as dried and frozen produce. For example, all eight Pilot States only obtained green peas through USDA Foods in frozen form.[56]

Several products that were acquired through the USDA Foods Program in frozen form were acquired through USDA DoD Fresh or the Pilot in fresh form, including apples, blueberries, broccoli, carrots, corn, cherries, green beans, spinach, sweet potatoes, and strawberries. All of the States obtained fresh and frozen apples through USDA Foods and fresh apples through the Pilot and USDA DoD Fresh. All of the States also obtained frozen broccoli through USDA Foods and fresh broccoli through both the Pilot and USDA DoD Fresh. Most States also obtained frozen carrots and strawberries through USDA Foods and fresh carrots and strawberries through the Pilot and USDA DoD Fresh. This suggests the Pilot offers a complement to the other USDA Foods Programs by offering produce in fresh form. USDA DoD Fresh offers only fresh items. However, not all SFAs have access to vendors or the produce items they want through USDA DoD Fresh. Results suggest the Pilot complements USDA DoD Fresh by providing States with additional opportunities to obtain fresh produce, though this opportunity could include additional administrative burden.

[55] Some fresh products may have been processed in ways that no longer meet the Pilot definition of "unprocessed." It is difficult to know which items remained in unprocessed form upon delivery to the recipient agency.
[56] This analysis does not account for canned green peas, which are also offered through the USDA Foods Program.

**Figure 7. Total Unprocessed Produce Obtained by Program and Form**




Source: Pilot Vendor/SDA Reports, FFAVORS Reports and WBSCM NSLP Delivery Order Status Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. Amounts include spending on unprocessed fruits and vegetables through the Pilot, USDA DoD Fresh, and USDA Foods.

## 5.5. Local Unprocessed Fruits and Vegetables

### 5.5.1. Definition of Local Produce

The definition of "local" for this analysis is based on the State of origin reported by vendors. For the Pilot, vendors report the product's State of origin in the Vendor/SDA Reports that the States submit to AMS, further described in Table B.1 and Section B.2. The data were recoded as "local" based on whether the item originated in the State or adjacent States, which is the same definition used in USDA DoD Fresh. However, there remains the possibility that the vendor-reported data regarding the State of origin for Pilot products could include the State where the item was processed rather than grown.

For example, in SY 2014–2015, some Michigan-based vendors understood the "Product State of Origin" field in the Vendor/SDA Report to mean the location of the packaging and processing facilities. Because of this misunderstanding, Michigan's Vendor/SDA data included invoices with oranges indicating a State of origin of Michigan. The study team could not verify the origin of the produce and excluded these oranges from the analysis of local produce obtained. This issue was resolved in the second year, as FNS explained the field in question to Michigan officials.

Data on the raw product's State of origin were unavailable for USDA Foods as these data are tracked based on the location of the processing/packaging facility. Additionally, USDA DoD Fresh spending on local produce was not analyzed, as it is reported on a voluntary basis. Ultimately, Statewide spending through the USDA Foods and USDA DoD Fresh Programs were not included in the analysis of spending on local food due to concerns about the consistency and

comprehensiveness of the data. In addition, the study team removed products in the Pilot data that did not have entries for the product State of origin field and could not be imputed.[57]

### 5.5.2. Spending on Local Produce Through the Pilot

Overall, States reported spending 62.3 percent of their Pilot funds on local, unprocessed fruits and vegetables, as Table 36 shows.

**Table 36. Pilot Spending on Local Fruits and Vegetables by Year and State**

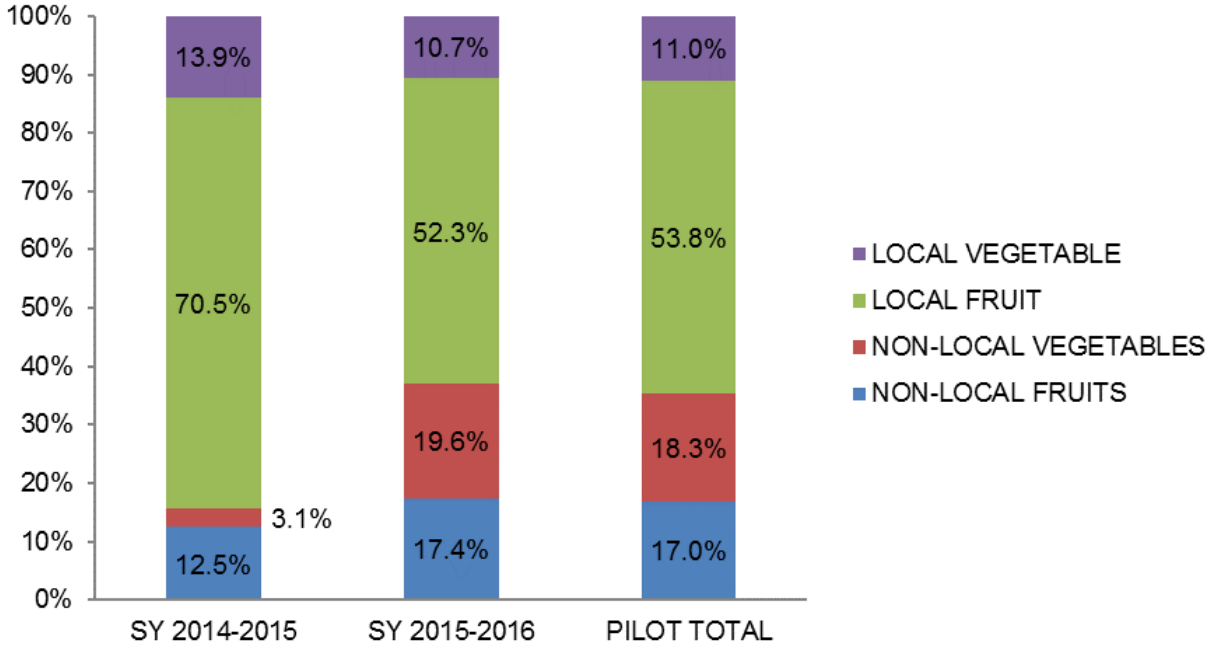
| State | SY 2014–2015 ($) | SY 2015–2016 ($) | Total Spent on Local Produce ($) | Total Pilot Spending ($) | Local Percent of Total Pilot Spending |
|---|---|---|---|---|---|
| CA | $207,121 | $817,662 | $1,024,783 | $1,124,454 | 91.1% |
| CT | $50,574 | $126,258 | $176,833 | $508,927 | 34.7% |
| MI | N/A | $158,435 | $158,435 | $729,823 | 21.7% |
| NY | $8,672 | $883,483 | $892,155 | $1,617,813 | 55.5% |
| OR | $81,303 | $291,700 | $373,003 | $373,003 | 100.0% |
| VA | N/A | $88,781 | $88,781 | $121,425 | 73.1% |
| WA | N/A | $340,765 | $340,765 | $397,864 | 85.6% |
| WI | N/A | $246,684 | $246,684 | $422,947 | 58.3% |
| **Total** | **$347,670** | **$2,953,768** | **$3,301,439** | **$5,296,257** | **62.3%** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Due to concerns about the accuracy of Michigan's vendor-reported data on the State of origin in the first year of the Pilot, the study team excluded the State's SY 2014–2015 spending on local produce from this analysis.

SFAs obtained a larger proportion of local produce in the first year of the Pilot than in the second year, as Figure 8 shows. However, the initial five Pilot States spent a greater dollar amount on local foods through the Pilot in the second year than in the first year. Overall, Pilot spending on local foods increased from $347,670 in the first year to $2,953,768 in the second year. The difference in spending on local produce across the two years is due to overall increased spending on the Pilot in the second year and the timing of the Pilot startup in the spring and early summer, when local produce may have been more readily available. Local fruits were predominantly apples, while local vegetables were mostly romaine lettuce, salad mixes, and carrots.

[57] A total of $10,792.82 of deliveries in New York in SY 2015–2016 could not be validated from the "Product State of Origin" and were excluded from this analysis.

## Figure 8. Pilot Spending on Local Fruits and Vegetables by Year




Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Due to concerns about the accuracy of Michigan's vendor-reported data on the State of origin in the first year of the Pilot, the study team excluded the State's SY 2014–2015 spending on local produce from this analysis.

The proportions and total dollar values of local produce that States obtained through the Pilot varied by State and year. In the Pilot, California and Oregon obtained all—or nearly all—local produce in the first year. Connecticut and New York spent half or less than half, respectively, of their Pilot funds in the first year on local produce. All three Pilot States that began in the second year acquired mostly local produce through the Pilot. New York, Oregon, Washington, and Wisconsin SDAs reported that their SFAs were particularly interested in acquiring local products. These four States spent more than half of their Pilot funds on local products in the second Pilot year.

California, Oregon, and Washington had the largest percentage of local Pilot spending overall. Several factors shaped the amount these States spent on local produce, including SFAs' emphasis on acquiring local produce, each State's agricultural production, and the definition of local produce used in this analysis.[58] An explanation of how these factors affected each State is below:

- California is the largest producer of agricultural products in the United States, which may have contributed to the State's spending on local produce through the Pilot (Table 1). California acquired 90.2 percent of its local produce from within the State, supplemented by produce from the bordering States of Oregon and Arizona (Figure 9).
- Washington spent more on local produce partly because SFAs emphasized they wanted to obtain local produce in the Pilot. Washington also is a large producer of agricultural products, particularly apples and pears. All of the local produce that Washington acquired

[58] The evaluation used the USDA DoD Fresh definition of "local" (i.e., from within the State or adjacent States) for all analyses.

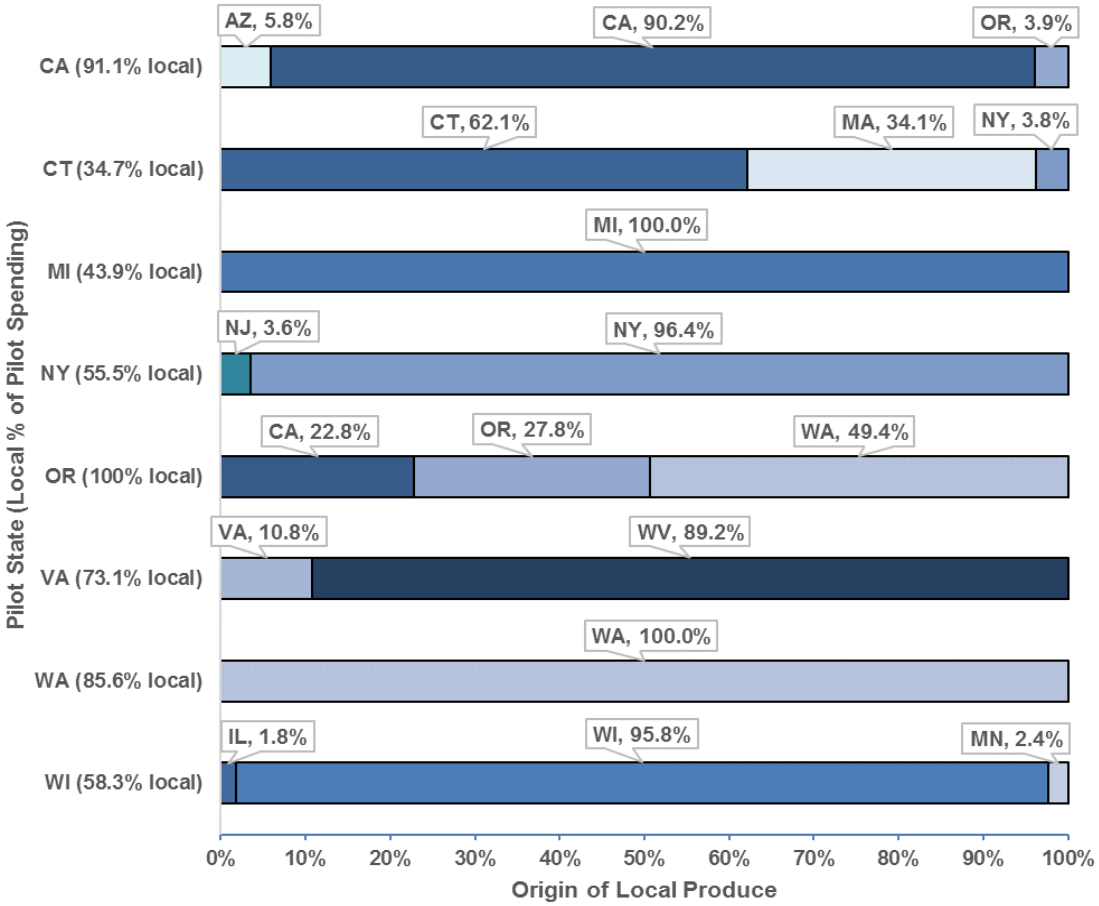
originated in the State. The nonlocal produce that Washington acquired came from California and Arizona.

- All of Oregon's Pilot spending was local, possibly because of the State's geographic location and the agricultural production of the neighboring States, which are local by definition. California and Washington, its bordering States, produce many of the varieties of fruits and vegetables that Oregon obtained through the Pilot. Oregon spent 27.8 percent of its Pilot funds on local produce from within the State, supplemented by 49.4 percent from Washington and 22.8 percent from California (Figure 9).

### 5.5.3. State of Origin of Local Produce

Based on the Vendor/SDA Reports, most States acquired local produce through the Pilot that originated in their own States as well as adjacent States (Figure 9). Of the produce categorized as local, two States—Michigan and Washington—only acquired local produce from their own States. Four States—California, Connecticut, New York, and Wisconsin—predominantly acquired local produce that originated in their own States. Oregon and Virginia predominantly obtained local produce that originated in adjacent States.

**Figure 9. Vendor-Reported Origins of Local Pilot Produce**




Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. Due to concerns about the accuracy of Michigan's vendor-reported data on the State of origin in the first year of the Pilot, the study team excluded the State's SY 2014–2015 spending on local produce from this analysis.

### 5.5.4. Types of Local Produce Obtained Through the Pilot

States obtained 64 types of locally produced products through the Pilot.[59] The number of local products that each State acquired ranged from six to 38. Interestingly, New York acquired more individual types of locally grown items than California, despite the size of California's agricultural economy and longer growing season. This difference may be a function of New York's increase in SFA participation and proactive local vendor outreach strategy in the Pilot's second year.

As Table 37 shows, apples comprised 55.8 percent of the local produce obtained through the Pilot. Most of the other top-ranked types of local products were fruits, except for carrots, romaine lettuce, and mixed vegetables. All of the products in Table 37 overlap with the top-ranking Pilot products (Table 29 and Table 30).

**Table 37. Top-Ranking Types of Local Produce Obtained Through the Pilot**

| Category | Proportion of Local Produce |
|---|---|
| Apples | 55.8% |
| Pears | 6.3% |
| Carrots | 5.0% |
| Oranges | 3.5% |
| Romaine lettuce | 3.3% |
| Nectarines | 3.1% |
| Strawberries | 2.6% |
| Peaches | 2.5% |
| Mixed vegetables | 2.0% |
| Plums | 1.9% |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. Due to concerns about the accuracy of Michigan's vendor-reported data on the State of origin in the first year of the Pilot, the study team excluded the State's SY 2014–2015 spending on local produce from this analysis.

## 5.6. Food Use in Schools

Information about the impacts of the Pilot on school meal program operations and school food use was limited to information SDA officials provided. SDA officials described two main impacts of the Pilot on food use in schools. To begin, the variety of produce available through the Pilot improved schools' ability to meet meal patterns. SDA officials reported that the Pilot offered a new opportunity to obtain produce that SFAs regularly used in their meal plans. SDA officials also reported that the variety offered through the Pilot provided new opportunities for students to try new items and for SFAs to expand offerings to include items or meal options in demand. The New York SDA official described how its schools "built an activity sometimes around trying the new varieties, whether it's taste test or Big Apple Crunch kind of thing, where they all bit into an apple at the same time... They were willing to try new varieties, and I think, overall, they said the kids' response was overwhelmingly positive." Michigan's SDA official described how its SFAs use the

[59] Counts of types of fruits and vegetables are counts of products listed in Table 22 and Table 23 (e.g., apples), not counts of specific varieties (e.g., red delicious or Braeburn apples).

Pilot to offer fruit and/or vegetable bars or food "bowls" with multiple fresh options that are in demand among students. The Michigan official offered specific varieties of fresh lettuce as an example of a product that SFAs in the State were not previously able to obtain through USDA Foods or USDA DoD Fresh. They now use dark leafy greens on salad bars and tacos instead of iceberg lettuce.

Second, the Pilot increased the capacity of schools to use new types of produce. The impacts of the Pilot on food use are, to some extent, limited by school facilities and personnel to handle and prepare unprocessed fruits and vegetables. According to SDA officials, some schools, especially smaller or more rural schools, do not have adequate facilities or training to prepare fresh produce for use in meals. Some SFAs addressed the challenge of inadequate facilities by using vendors that can also do light processing (e.g., chopping and bagging). SFAs also ordered fruits and vegetables (e.g., apples, peaches, lettuce, tomatoes) that require less preparation, which reduced the impact of limited school food service facilities. One SDA official also reported that some schools that do not have the equipment to clean and prepare unprocessed produce were seeking grants and training to increase their capacity to handle the produce. Another SDA official said that one SFA provided "mini-trainings" to food service staff on food preparation techniques to increase its capacity to handle the produce.

## 5.7. Administrative Processes

The Pilot required additional administrative activities for States and SFAs due to the need to recruit SFAs, identify vendors, and track invoices.[60] SDA officials dedicated differing amounts of time to administering the Pilot, estimating between five hours per month (three percent of one full-time staff) and 176 hours per month (55 percent of two full-time staff) at the SDA level. SDA officials reconcile invoices, conduct outreach to vendors, provide support to SFAs, monitor entitlement spending, and communicate with USDA regarding any issues or technical assistance needs. Several factors affected the time SDAs needed to allocate to the Pilot, including their approach to vendor recruitment. SDA officials that conducted more intensive outreach (e.g., visiting vendors in the community) needed to dedicate more time to the Pilot. Other factors shaping the time needed to administer the Pilot related to the invoice reconciliation process. For example, States that reconcile invoices at the SDA level needed to allocate more time if they had more SFAs receiving deliveries and more vendors. In addition, the perceived burden of the Pilot may also fluctuate based on the availability of SDA staff, as multiple SDA offices had vacancies during the evaluation years.

According to SDA officials, the main administrative burden of the Pilot was the invoice reconciliation process. Although some SDA officials mentioned that the newer USDA invoice template, updated in August 2016, improved the reconciliation process, five SDA officials commented that the process was still time consuming. The process, which was unique to the Pilot, required manual data manipulation and manual item-by-item comparison of invoice receipts to paid invoices. As described in Section 4.5, Pilot States approached the invoice reconciliation process in two main ways: reconciliation at the SDA level and reconciliation at the SFA level. Each State's approach determined which entity experienced the least burden. Three SDA officials reported that the current system of invoice reconciliation limited the growth of the Pilot, and one

[60] The evaluation did not address administrative processes or burden for USDA.

was concerned that their State would not be able to participate in future years due to the administrative burden.

The Pilot also affected the amount of time SFAs needed to spend on procurement. To expend entitlement funds through the Pilot, SFAs needed to conduct their own procurement. This procedure contrasts with the USDA Foods and USDA DoD Fresh Programs, in which AMS and DoD conduct procurement, respectively. Through the USDA Foods and USDA DoD Fresh Programs, SFAs, school districts, or individual schools order products using USDA Foods entitlement dollars. To expend entitlement funds through the Pilot, SFAs must procure contracts with AMS-approved vendors. SDA officials reported that conducting procurement for the Pilot was similar to conducting procurement for commercial contracts. However, they said that smaller SFAs did not have additional resources to conduct Pilot procurements. As noted in Section 4.2.2, the anticipated burden of additional procurement prevented some SFAs from participating in the Pilot and caused a few to leave the Pilot after the first year. According to SDA officials, SFAs that conduct procurement as a group experienced less administrative burden than smaller or less resourced SFAs procuring on their own.

Conversely, one of the main benefits of conducting procurement at the SFA level is flexibility in establishing contract requirements to meet SFA needs. During the procurement and contracting process, SFAs may customize their ordering frequencies (e.g., different orders each week or submitting a one-time standing order), delivery schedules, product prices, geographic preferences, and/or purchasing quantities. For consortia that conduct procurement for many SFAs, the contract may stipulate that individual school districts or schools may establish an acceptable delivery schedule with the vendor. According to SDA officials, larger SFAs sometimes found they could get better prices for products based on their ordering capacity through the Pilot than they could through USDA DoD Fresh.

States ordered more when the Pilot fit into existing ordering practices. When SFAs were aware of available products and the ordering process aligned with normal ordering practices, they ordered more food, according to SDA officials. For example, Michigan implemented a new ordering system in the third year, upgrading Pilot ordering from a telephone-based process to an online system that aligned Pilot ordering with how school districts ordered USDA Foods, USDA DoD Fresh, and commercial items. As a result, the SDA official reported that Michigan SFAs more than doubled their Pilot allocation in the third year.

## 5.8. Overall Impressions and Benefits of the Pilot

### 5.8.1. Pilot Benefits

SDA officials described three main benefits of the Pilot. First, the Pilot resulted in increased flexibility for SFAs to spend USDA Foods entitlement funds on unprocessed fruits and vegetables. Analysis of administrative data revealed that recipient SFAs obtained types and varieties of produce otherwise unavailable to them through USDA Foods and USDA DoD Fresh. As reported, most recipient SFAs did not participate in USDA DoD Fresh—a major Federal source of fresh produce. According to SDA officials, SFAs did not participate in USDA DoD Fresh mainly because they did not have access to a vendor or felt the program did not meet their needs. These SFAs were able to order many types of produce through the Pilot using USDA Foods entitlement

funds. In addition, the added flexibility to obtain these products through the Pilot allowed SFAs to use commercial account funding for other purchases.

Second, the Pilot presents an opportunity for increased autonomy for SFAs to establish partnerships with particular produce suppliers using their USDA Foods entitlement dollars. SDA officials stated that although additional procurement may present a barrier for some SFAs to participate, procurement also presents an opportunity for SFAs to establish contracts that fulfill their needs beyond what the USDA DoD Fresh and USDA Foods Programs may provide. One SDA official said, "The good news with the Pilot is your relationship, it's the school to the vendor. You're on the phone or email with them once a week saying hey, here's what I need every Monday, and it's yes or no. In that respect, the perceived benefits of the Pilot are—there are a lot of benefits." Another SDA official noted that the flexibility in ordering and delivery with Pilot vendors prevented spoilage and waste that could result from having to store produce for longer periods between deliveries.

The Pilot also presents an opportunity for some SFAs to procure and obtain unprocessed produce at a lower price. According to SDA officials, the buying power of large school systems or consortia allowed some SFAs to obtain unprocessed fruits and vegetables through the Pilot at a lower price than through USDA DoD Fresh. For SFAs that wanted to dictate their delivery schedule, like in Wisconsin, the Pilot represented an opportunity to negotiate the delivery schedule to be more conducive to the needs of the school.

Finally, the Pilot represents a new or expanded business opportunity for vendors. States collectively have millions of dollars in USDA Foods entitlement funds to spend every school year. Although the AMS certification process can be prohibitive for some vendors, the Pilot represents an opportunity for some smaller vendors and producers to move directly into this market. SDA officials suggested the Pilot could increase competition in the overall school food market, which may result in lower prices for unprocessed produce for SFAs. In contrast with the USDA Foods and USDA DoD Fresh Programs, where SFAs do not specify contract requirements, the Pilot also allowed SFAs to use geographic preference in their bids, which could enhance the local economy.[61]

### 5.8.2. Complementary Programs

The Pilot, USDA DoD Fresh, and USDA Foods Programs provide schools with flexibility and access to a variety of foods to operate school lunch programs using USDA Foods entitlement funds. Together the programs strengthen access to unprocessed fruits and vegetables for NSLP. Each State's produce needs are different and reflect the setup of the State's food distribution system. These USDA Foods Programs—USDA Foods, USDA DoD Fresh, and the Pilot—allow SDAs and SFAs to meet needs of the NSLP efficiently and in the manner that suits them best.

An important question for the Pilot evaluation is whether the introduction of the Pilot affected spending through other USDA Foods programs or participating entities' perceptions of USDA DoD Fresh and USDA Foods. The administrative data suggested some differences in spending through USDA DoD Fresh and USDA Foods between the first and second years of the Pilot. However, it was not possible to attribute these changes to the Pilot due to data limitations. These

[61] SFAs can also obtain local foods through USDA DoD Fresh by ordering produce self-reported by vendors as "local."

observed differences in purchasing patterns might be the result of routine variations in spending from year to year. Since some SFAs were able to modify current commercial contracts to include payment through the Pilot, some shifts in spending potentially occurred between commercial and USDA Foods entitlement accounts, rather than across the USDA Foods Programs.

Based on their experiences with the Pilot in the first two years, SDA officials viewed the Pilot, USDA DoD Fresh, and USDA Foods as complementary programs designed to fill somewhat different needs. More than 85 percent of SFAs that received unprocessed fruits and vegetables through the Pilot did not receive any produce through USDA DoD Fresh. In these locations, the Pilot filled a gap and provided flexibility to obtain the unprocessed produce that met the SFAs' needs. The Pilot was a valuable addition to the opportunities available for SFAs to obtain different types and varieties of produce using USDA Foods entitlement funds. For example, one SDA official said that the programs are, "a good complement because… the USDA Foods… are primarily the frozen or canned products… [and] having two different outlets to get the fresh produce work nicely together. I think [schools are] meeting their menu needs and requirements well between the three [programs]." Similarly, another SDA official said that "USDA does a really good job in terms of providing fruits and vegetables to our schools and DoD has its strengths in terms of being able to offer fresh [as opposed to frozen or canned] produce to schools."

In contrast, SDA officials reported that the SFAs that enrolled in the Pilot, but did not receive deliveries, might have mixed responses about the Pilot. Challenges included a lack of access to a local eligible vendor, inability to meet vendors' minimum order requirements, a lack of capacity for extra competitive procurement, or concerns that eligible vendors did not have a sufficient variety of produce available under the Pilot. SDA officials reported that SFAs also expressed satisfaction with the other programs. One SDA official reported that the response from its SFAs was "pretty much mixed. Some schools felt that DoD [Fresh] is the program that excels in [providing access to fresh fruits and vegetables] currently, but they expect that the Pilot… could be successful."

In addition to providing a complement to USDA DoD Fresh and USDA Foods, some SDA officials reported that the Pilot allowed SFAs to have control over aspects of their contracts with vendors—including delivery schedules—that they did not have with USDA DoD Fresh and USDA Foods because of ordering and delivery design. In some States, deliveries of fruits and vegetables from USDA DoD Fresh and/or USDA Foods pass through a State warehouse and have predetermined delivery dates that may not align with SFA needs. The Pilot offered SFAs the ability to request a delivery schedule that accommodated their needs in their procurement process. The Pilot, paired with the USDA DoD Fresh and USDA Foods Programs, offered SFAs additional flexibility to obtain unprocessed produce using entitlement funds, in vendor selection and management, and in contract specifications (e.g., delivery schedules). The ability to be flexible adds to the overall value of the USDA Foods Program.

# 6. Conclusion

The Pilot was designed to provide schools with additional opportunities to obtain unprocessed fruits and vegetables with USDA Foods entitlement funds in support of the implementation of school meal standards. After initial challenges with the availability of entitlement funds and access to eligible vendors at startup, interest and participation in the Pilot grew in the second year. The eight Pilot States spent nearly $5.3 million on a wide variety of unprocessed produce through the Pilot in both years combined. A substantial proportion of this spending was on local produce, suggesting the Pilot provided additional opportunities to obtain local produce with USDA Foods entitlement funds and support local agriculture, although local produce can also be obtained through USDA DoD Fresh or USDA Foods.

Like USDA DoD Fresh, the Pilot provided an additional means of obtaining unprocessed fruits and vegetables using USDA Foods entitlement funds. The results of the evaluation suggest that SFAs were able to obtain items they did not otherwise order through the USDA Foods programs. SFAs obtained 42 different types and varieties of produce through the Pilot that they did not receive through the USDA Foods or USDA DoD Fresh Programs. The Pilot was especially beneficial to the SFAs that did not participate in USDA DoD Fresh. These SFAs obtained more than 100 types and varieties of unprocessed produce that they did not obtain Statewide through USDA Foods. Additionally, several products that were acquired through the USDA Foods Program primarily in frozen form were also acquired through USDA DoD Fresh and the Pilot in fresh form, including broccoli and strawberries.

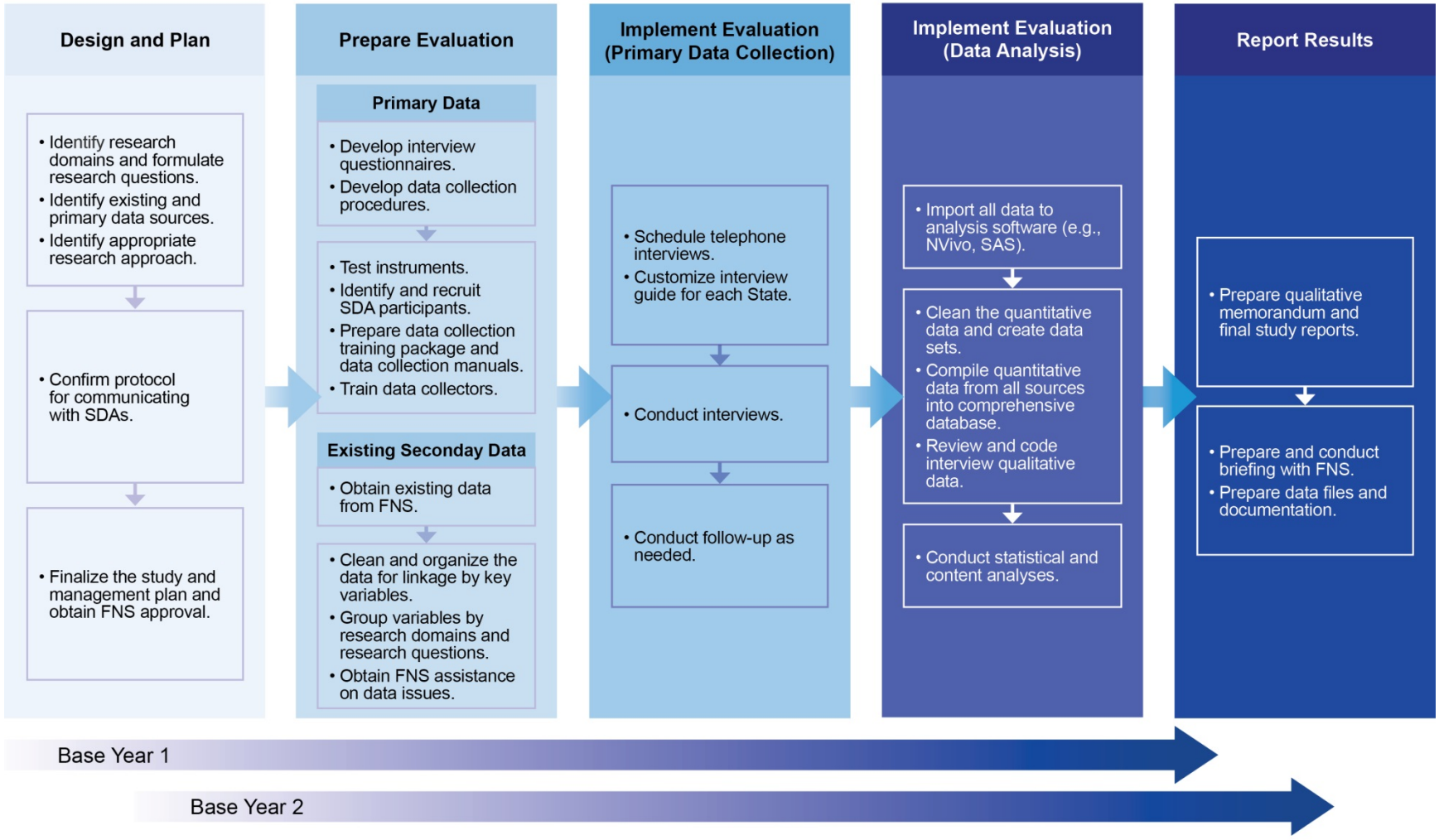
Implementation of the Pilot required coordination and participation among four key stakeholders: USDA, SDAs, SFAs, and vendors. Findings from the first two Pilot years offer important lessons about implementation.

1. States that focused initial recruitment on vendors with whom they had existing contracts experienced smoother startup and fewer challenges with vendor recruitment.
2. States that targeted larger SFAs and consortia were able to spend more through the Pilot. The use of consortia could likely remove the procurement burden from individual SFAs. The Pilot may have been more appealing initially to larger SFAs and consortia because they had a greater capacity to conduct procurement than smaller or individual SFAs operating the Pilot on their own.
3. Multipronged, on-the-ground outreach to vendors appeared to be effective in Pilot ramp up. The State that used this approach engaged 14 vendors that were able to deliver produce to the State's 257 Pilot recipient SFAs.
4. According to SDA officials, the Pilot was less appealing to SFAs that did not have the capacity to conduct procurement or manage the Pilot, or did not have a Pilot-approved vendor that could serve them in their area. These SFAs would have needed additional assistance with vendor recruitment and procurement to be successful in the Pilot.
5. Several SDA officials expressed concerns about the invoice reconciliation process. SDA officials suggested that the burden of this process limited the volume of deliveries under the Pilot.

The main limitation of the Pilot evaluation is that the data provide a limited picture of how the Pilot impacted the overall food acquisition patterns of SFAs. Two main factors contributed to this limitation: a lack of information on SFAs' commercial market purchases and limited SFA-level data on USDA DoD Fresh and USDA Foods orders. Without information on commercial market purchases or SFA-level data, it is not clear if the Pilot led to increased unprocessed fruit and vegetable procurement or a shift from one purchasing mechanism to another. Without SFA-level data on USDA DoD Fresh and USDA Foods orders, it was not possible to identify changes in procurement patterns over time or to compare Pilot SFAs with similar nonparticipating SFAs to examine changes in procurement at the SFA level. However, it appears States spent less on unprocessed produce through USDA Foods as they spent more on unprocessed produce through the Pilot.

# Appendix A: Overview of Evaluation Process

## Figure A.1. Overview of the Evaluation Process



# Appendix B: Details of Administrative and Secondary Data Sources

## B.1. Overview of Data Sources

**Table B.1. Summary of Evaluation Administrative and Secondary Data Sources**

| Detailed Name of Data Sources | Data Year | Contents |
|---|---|---|
| **Pilot Reports** | | |
| Vendor/SDA Reports | SY 2014–2015, SY 2015–2016 | Individual products' descriptions, quantity, cost, and State of origin; delivery date; vendors' name; recipient SFAs and city |
| Participating SFAs | SY 2014–2015, SY 2015–2016 | Names of SFAs |
| USDA Foods and Pilot Vendor Characteristics | Past three years for USDA Foods vendors, SY 2014–2015 and SY 2015–2016 for Pilot vendors | Vendors' name, business type, size, State of origin, variety of products offered |
| **USDA DoD Fresh Program Reports[a]** | | |
| FFAVORS Entitlement Report (FFAVS512) | SY 2013–2014, SY 2014–2015, SY 2015–2016 | Summary (no detailed information on individual products) data on entitlement dollars each State allocated and spent |
| USDA DoD Fresh Entitlement Report by Month | SY 2013–2014, SY 2014–2015, SY 2015–2016 | Similar to FFAVS512 but broken down by month |
| FFAVORS Local Purchases by Month (FFAVS302) | SY 2013–2014, SY 2014–2015, SY 2015–2016 | Individual local product descriptions, quantity, and cost, by month; summary of data by State |
| FFAVORS Local Item Summary by Month and State (FFAVS306) | SY 2013–2014, SY 2014–2015, SY 2015–2016 | Individual local product descriptions, additional elements on average catalog price and order frequency |
| FFAVORS Item Summary by Month and State (FFAVS306x) | SY 2013–2014, SY 2014–2015, SY 2015–2016 | Individual product descriptions, includes all products (not only local products) |
| Products on Catalogs (FFAVS809Y) | SY 2013–2014, SY 2014–2015, SY 2015–2016 | Detailed pricing information on the products in vendors' catalogs |
| **USDA Foods Reports** | | |
| WBSCM NSLP Delivery Order Status Report | SY 2013–2014, SY 2014–2015, SY 2015–2016 | Individual product descriptions, quantity, cost, recipients, order status, delivery date, etc. |
| State of Origin by States | FY 2013, FY 2014 | State of origin for all products for all USDA Foods distribution programs |
| USDA Foods Available Lists | SY 2013–2014, SY 2014–2015, SY 2015–2016 | Lists of available USDA Foods |

| Detailed Name of Data Sources | Data Year | Contents |
|---|---|---|
| **SFA Verification Collection Report** | | |
| FNS-742 Form | SY 2013–2014, SY 2014–2015, SY 2015–2016 | Information on SFAs with schools participating in NSLP and the School Breakfast Program (SBP) |
| **NCES CCD** | | |
| Universe surveys–State | SY 2013–2014, SY 2014–2015 | Basic summary statistics at State level on public elementary and secondary school students and staff |
| Universe surveys–School District (LEA) | SY 2013–2014, SY 2014–2015, SY 2015–2016 (preliminary data) | Basic information on public elementary and secondary school districts |
| Universe surveys–School | SY 2013–2014, SY 2014–2015, SY 2015–2016 (preliminary data) | Basic information on public elementary and secondary school students and staff |
| **2015 Farm to School Census** | | |
| District data | FY 2014 | Raw data for all school districts that participated in the USDA 2015 Farm to School Census |
| State and national summary | FY 2014 | Summary statistics by State for all school districts that responded to the 2015 Farm to School Census |

[a] The name of the USDA DoD Fresh report includes the FFAVORS report number.

## B.2. Administrative Data: Pilot Reports

Pilot participation rules require vendors to submit reports at least monthly to AMS for products delivered under the Pilot, and Pilot SDAs must verify the submitted information. These reports are "Vendor/SDA Reports." The report template format changed from SY 2014–2015 to SY 2015–2016 to include more descriptive information about orders.[62] These reports comprise the data on Pilot orders. For the first year of the Pilot (SY 2014–2015), data analyses used data on deliveries only between July 1, 2014, and June 30, 2015. The second year of the Pilot included deliveries completed between July 1, 2015, and June 30, 2016. The "State Entitlement Tracking" summary provides the amount of entitlement allocated to the Pilot.

AMS maintains a list of Pilot-eligible vendors under the Pilot. The list provides data on some vendor characteristics, including the vendor's State, products offered, and type (e.g., grower, distributor). FNS and AMS also maintain a list of SFAs enrolled in the Pilot.

## B.3. Administrative Data: USDA DoD Fresh Program Reports

***FFAVORS Entitlement Report (FFAVS512).*** This is a summary report that provides State-level expenditures. This report documents the amount of entitlement dollars each State allocated for USDA DoD Fresh and spent in the past SY. For example, SY 2014 covers allocations in SY 2013.

[62] The SY 2015–2016 template includes vendor name, recipient SFA, delivery recipient, delivery city, delivery State, product description, State of origin, quantity, unit of measure, net weight, cost per unit, total cost, and delivery date.

Values reflect totals for all produce ordered, without detailed information on individual products. Data are organized by State ID.

***USDA DoD Fresh Entitlement Report by Month.*** This is a report containing the monthly aggregated data from FFAVS512. This report provides State-level information on total expenditures and local expenditures on fresh produce. The report includes a breakdown of how entitlement dollars are spent by month and entitlement type for each State for the preceding school year. Federal Commodity Entitlement is the type of entitlement included in this report that is suitable for the current evaluation study.

***FFAVORS Local-Grown Purchases by Month (FFAVS302).*** This is a monthly time series report that provides State-level information on local produce orders. This report includes a "Local Summary" and "Local Detail." The information indicates the amounts of orders of local-grown items made by each State each month and which specific local products were purchased. In the FFAVORS catalog, vendors can mark items as "local grown," which signifies the product as coming from within the State of service or from an adjacent State.

***FFAVORS Local Item Summary by Month and State.*** This is a monthly time series report that provides State-level information on produce type, dollar value, and quantity purchased for local produce only.

***FFAVORS Detail Usage for Specific Districts (FFAVS203).*** This is a special report that provides purchase-level detail for SFAs participating in both the Pilot and USDA DoD Fresh.

## B.4. Administrative Data: USDA Foods Program Reports

The WBSCM data files include the Delivery Order Status Report and USDA Foods State of Origin report for all States.

The Delivery Order Status Report provides all USDA Foods orders for the respective school years. USDA DoD Fresh and Pilot transactions are excluded. Orders are for all States and products. Six-digit Material Codes and Material Descriptions identify individual items.

The USDA Foods State of Origin report, organized by fiscal year, shows the State of origin for all products for all USDA Foods Programs in FNS, including USDA Foods in Child Nutrition Programs, the Food Distribution Program on Indian Reservations, The Emergency Food Assistance Program, and the Commodity Supplemental Food Program. Information in this report indicates the place where products were packed and processed, which may or may not be the place where they were grown or raised.

## B.5. Administrative Data: SFA Verification Collection Report (FNS-742 Form)

This report is collected annually from State agencies for each SFA with schools operating the NSLP and/or SBP. The information includes the SFAs' size (based on number of schools and student enrollment) and their NSLP/SBP eligibility status.

## B.6. Secondary Data: 2015 Farm to School Census

Data were downloaded from the USDA Farm to School Census website: https://farmtoschoolcensus.fns.usda.gov. The data include the following two components:

***Farm to School Census District Data_v web.*** This file includes the raw data collected from all school districts that responded to the 2015 Farm to School Census. The public use data include information about the farm to school activities in each respondent school district, such as how "local" is defined; whether and how the school is serving locally produced foods; how products are purchased, delivered, and distributed; the channels for obtaining local foods; respondents' perceptions of challenges and benefits of the farm to school activities, etc. The datasets also include data on the characteristics of school districts that mainly come from the NCES CCD.

***Farm to School Census State and National Summary.*** This file includes aggregated summary statistics by State based on the raw data contained in the ***Farm to School Census District Data_v web*** data file.

## B.7. Secondary Data: NCES CCD

The NCES CCD contains administrative data from State education agencies covering the universe of all free, public elementary and secondary schools and school districts in the United States. One concern with data from the NCES CCD, however, is that the data lag is at least one year. As of the summer of 2016, the SY 2014–2015 data were only preliminary with limited variables. The following three components of the CCD data were used for the current evaluation.

***State Aggregate Nonfiscal Data:*** These data provide State-level, aggregate information about students and staff in public elementary and secondary education.

***Local Education Agency (School District) Universe:*** These data provide characteristics of each school district, including operational status, agency type, charter agency status, student counts by grade, and staff counts by job category.

***Public School Universe:*** These data provide information on all public elementary and secondary schools in operation during a school year including school location and type, enrollment by grade and student characteristics, and number of classroom teachers.

In the NCES CCD, each school is assigned an "urban-centric locale code" that reflects the location (physical address) of the school relative to populous areas. The locale code includes 11 codes for city, suburban, town, and rural locales. The evaluation team grouped these codes to facilitate analysis. The definitions of the locale codes and the groupings used in the evaluation are provided in Table B.2.

## Table B.2. Locale Code Definitions and Groupings

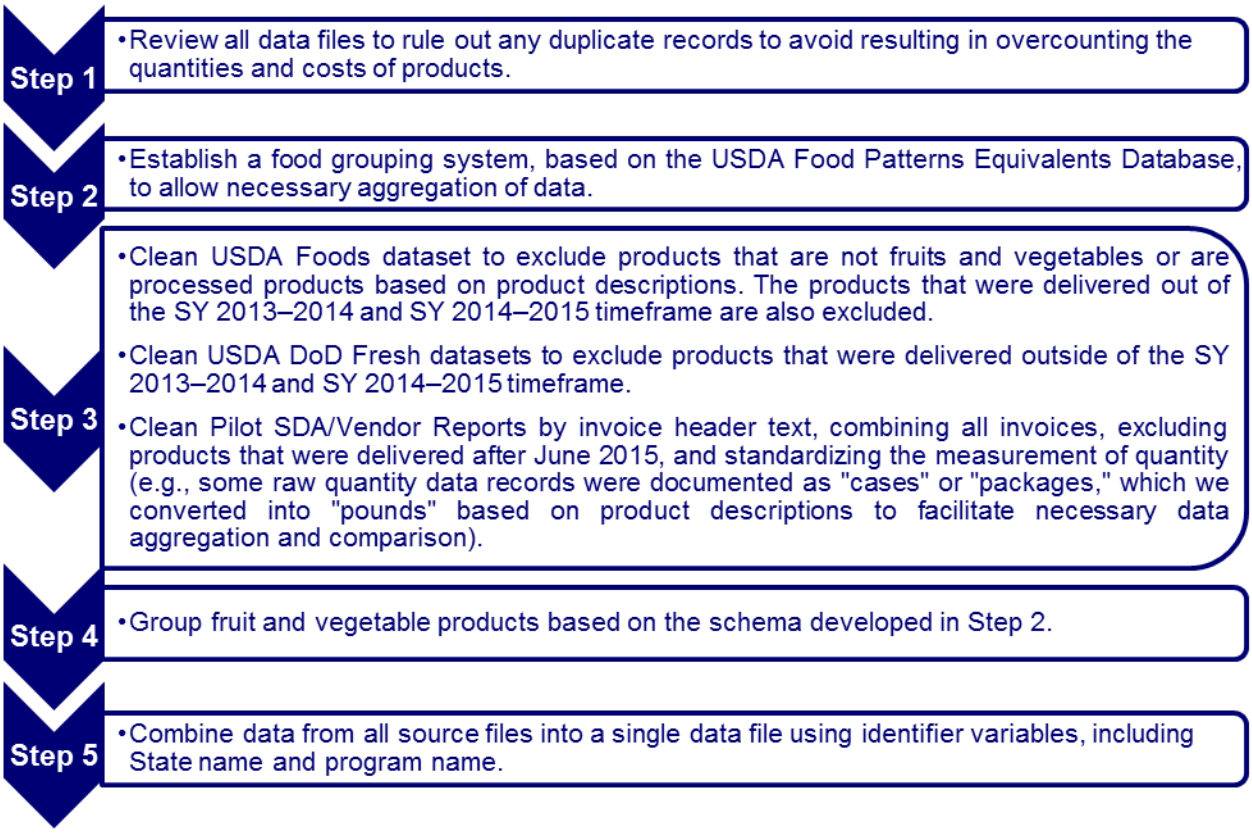
| Locale Code | Locale Type | Definition | Code Used in the Evaluation |
|---|---|---|---|
| 11 | City, Large | Territory inside an urbanized area and inside a principal city with population of 250,000 or more. | City |
| 12 | City, Midsize | Territory inside an urbanized area and inside a principal city with a population less than 250,000 and greater than or equal to 100,000. | City |
| 13 | City, Small | Territory inside an urbanized area and inside a principal city with a population less than 100,000. | City |
| 21 | Suburb, Large | Territory outside a principal city and inside an urbanized area with population of 250,000 or more. | Suburb |
| 22 | Suburb, Midsize | Territory outside a principal city and inside an urbanized area with a population less than 250,000 and greater than or equal to 100,000. | Suburb |
| 23 | Suburb, Small | Territory outside a principal city and inside an urbanized area with a population less than 100,000. | Suburb |
| 31 | Town, Fringe | Territory inside an urban cluster that is less than or equal to ten miles from an urbanized area. | Town |
| 32 | Town, Distant | Territory inside an urban cluster that is more than ten miles and less than or equal to 35 miles from an urbanized area. | Town |
| 33 | Town, Remote | Territory inside an urban cluster that is more than 35 miles from an urbanized area. | Town |

| Locale Code | Locale Type | Definition | Code Used in the Evaluation |
|---|---|---|---|
| 41 | Rural, Fringe | Census-defined rural territory that is less than or equal to five miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster. | Rural |
| 42 | Rural, Distant | Census-defined rural territory that is more than five miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to ten miles from an urban cluster. | Rural |

Source: https://nces.ed.gov/ccd/psadd.asp.

# Appendix C: Integration of Individual Product-Level Data

**Figure C.1. Data Cleaning and Processing**



# Appendix D: Produce Classification Scheme

### Table D.1. Produce Classification Scheme

| Commodity Group | Commodity Subgroup | Family Group | Food Group | Variety Group |
|---|---|---|---|---|
| Fruits | Citrus/melons/berries | Berries | Blackberries | Any |
| Fruits | Citrus/melons/berries | Berries | Blueberries | Any |
| Fruits | Citrus/melons/berries | Berries | Cranberries | Any |
| Fruits | Citrus/melons/berries | Berries | Kiwi | Any |
| Fruits | Citrus/melons/berries | Berries | Raspberries | Any |
| Fruits | Citrus/melons/berries | Berries | Strawberries | Any |
| Fruits | Citrus/melons/berries | Citrus | Grapefruit | Any |
| Fruits | Citrus/melons/berries | Citrus | Grapefruit | Pink |
| Fruits | Citrus/melons/berries | Citrus | Grapefruit | Red |
| Fruits | Citrus/melons/berries | Citrus | Kumquat | Any |
| Fruits | Citrus/melons/berries | Citrus | Lemons | Any |
| Fruits | Citrus/melons/berries | Citrus | Mandarin oranges | Any |
| Fruits | Citrus/melons/berries | Citrus | Mandarin oranges | Clementine |
| Fruits | Citrus/melons/berries | Citrus | Mandarin oranges | Honey/Murcott |
| Fruits | Citrus/melons/berries | Citrus | Mandarin oranges | Page |
| Fruits | Citrus/melons/berries | Citrus | Mandarin oranges | Satsuma |
| Fruits | Citrus/melons/berries | Citrus | Mandarin oranges | Tango |
| Fruits | Citrus/melons/berries | Citrus | Oranges | Any |
| Fruits | Citrus/melons/berries | Citrus | Oranges | Blood |
| Fruits | Citrus/melons/berries | Citrus | Oranges | Caracara |
| Fruits | Citrus/melons/berries | Citrus | Oranges | Navel |
| Fruits | Citrus/melons/berries | Citrus | Oranges | Valencia |
| Fruits | Citrus/melons/berries | Citrus | Tangelos | Any |
| Fruits | Citrus/melons/berries | Citrus | Tangelos | Minneola |
| Fruits | Citrus/melons/berries | Citrus | Tangerines | Any |
| Fruits | Citrus/melons/berries | Melons | Cantaloupe | Any |
| Fruits | Citrus/melons/berries | Melons | Honeydew | Any |
| Fruits | Citrus/melons/berries | Melons | Watermelon | Any |
| Fruits | Other fruits | Core fruits | Apples | Ambrosia |
| Fruits | Other fruits | Core fruits | Apples | Any |
| Fruits | Other fruits | Core fruits | Apples | Braeburn |

| Commodity Group | Commodity Subgroup | Family Group | Food Group | Variety Group |
|---|---|---|---|---|
| Fruits | Other fruits | Core fruits | Apples | Buckeye |
| Fruits | Other fruits | Core fruits | Apples | Cameo |
| Fruits | Other fruits | Core fruits | Apples | Cortland |
| Fruits | Other fruits | Core fruits | Apples | Crispin |
| Fruits | Other fruits | Core fruits | Apples | Empire |
| Fruits | Other fruits | Core fruits | Apples | Fuji |
| Fruits | Other fruits | Core fruits | Apples | Gala |
| Fruits | Other fruits | Core fruits | Apples | Ginger Gold |
| Fruits | Other fruits | Core fruits | Apples | Golden Delicious |
| Fruits | Other fruits | Core fruits | Apples | Granny Smith |
| Fruits | Other fruits | Core fruits | Apples | Grapple |
| Fruits | Other fruits | Core fruits | Apples | Honeycrisp |
| Fruits | Other fruits | Core fruits | Apples | Idared |
| Fruits | Other fruits | Core fruits | Apples | Jonagold |
| Fruits | Other fruits | Core fruits | Apples | Jonathan |
| Fruits | Other fruits | Core fruits | Apples | Lady Alice |
| Fruits | Other fruits | Core fruits | Apples | Liberty |
| Fruits | Other fruits | Core fruits | Apples | Macintosh |
| Fruits | Other fruits | Core fruits | Apples | Macoun |
| Fruits | Other fruits | Core fruits | Apples | Melrose |
| Fruits | Other fruits | Core fruits | Apples | Paula |
| Fruits | Other fruits | Core fruits | Apples | Paula/Mac |
| Fruits | Other fruits | Core fruits | Apples | Pink Lady |
| Fruits | Other fruits | Core fruits | Apples | Red delicious |
| Fruits | Other fruits | Core fruits | Apples | Rome |
| Fruits | Other fruits | Core fruits | Apples | Tydeman |
| Fruits | Other fruits | Core fruits | Asian pears | Any |
| Fruits | Other fruits | Core fruits | Pears | Any |
| Fruits | Other fruits | Core fruits | Pears | Bartlett |
| Fruits | Other fruits | Core fruits | Pears | Bosc |
| Fruits | Other fruits | Core fruits | Pears | Comice |
| Fruits | Other fruits | Core fruits | Pears | D'Anjou |
| Fruits | Other fruits | Core fruits | Pears | Forelle |
| Fruits | Other fruits | Core fruits | Pears | Green Anjou |
| Fruits | Other fruits | Core fruits | Pears | Packhams |
| Fruits | Other fruits | Core fruits | Pears | Red |
| Fruits | Other fruits | Core fruits | Pears | Red Anjou |
| Fruits | Other fruits | Core fruits | Pears | Seckel |

| Commodity Group | Commodity Subgroup | Family Group | Food Group | Variety Group |
|---|---|---|---|---|
| Fruits | Other fruits | Core fruits | Pears | Sunsprite |
| Fruits | Other fruits | Grapes | Grapes | Any |
| Fruits | Other fruits | Grapes | Grapes | Black |
| Fruits | Other fruits | Grapes | Grapes | Green |
| Fruits | Other fruits | Grapes | Grapes | Red |
| Fruits | Other fruits | Grapes | Grapes | White |
| Fruits | Other fruits | Grapes | Raisins | Any |
| Fruits | Other fruits | Other fruits | Bananas | Any |
| Fruits | Other fruits | Other fruits | Dates | Any |
| Fruits | Other fruits | Other fruits | Mixed fruits | Apples/grapes |
| Fruits | Other fruits | Other fruits | Mixed fruits | Apples/oranges |
| Fruits | Other fruits | Other fruits | Mixed fruits | Melons/grapes |
| Fruits | Other fruits | Other fruits | Mixed fruits | Melons/pineapple |
| Fruits | Other fruits | Other fruits | Papayas | Any |
| Fruits | Other fruits | Other fruits | Persimmon | Any |
| Fruits | Other fruits | Other fruits | Pineapples | Any |
| Fruits | Other fruits | Other fruits | Pomegranates | Any |
| Fruits | Other fruits | Other fruits | Starfruit | Any |
| Fruits | Other fruits | Stone fruits | Apricots | Any |
| Fruits | Other fruits | Stone fruits | Cherries | Any |
| Fruits | Other fruits | Stone fruits | Mango | Any |
| Fruits | Other fruits | Stone fruits | Nectarines | Any |
| Fruits | Other fruits | Stone fruits | Nectarines | White |
| Fruits | Other fruits | Stone fruits | Nectarines | Yellow |
| Fruits | Other fruits | Stone fruits | Peaches | Any |
| Fruits | Other fruits | Stone fruits | Peaches | White |
| Fruits | Other fruits | Stone fruits | Peaches | Yellow |
| Fruits | Other fruits | Stone fruits | Plums | Any |
| Fruits | Other fruits | Stone fruits | Plums | Black |
| Fruits | Other fruits | Stone fruits | Plums | Red |
| Fruits | Other fruits | Stone fruits | Pluots | Any |
| Vegetables | Beans and peas | Beans/legumes | Great northern beans | Any |
| Vegetables | Beans and peas | Beans/legumes | Navy beans | Any |
| Vegetables | Beans and peas | Beans/legumes | Pinto beans | Any |
| Vegetables | Dark green vegetables | Cruciferous | Arugula | Any |
| Vegetables | Dark green vegetables | Cruciferous | Bok choy | Any |
| Vegetables | Dark green vegetables | Cruciferous | Broccoli | Any |

| Commodity Group | Commodity Subgroup | Family Group | Food Group | Variety Group |
|---|---|---|---|---|
| Vegetables | Dark green vegetables | Cruciferous | Broccolini | Any |
| Vegetables | Dark green vegetables | Cruciferous | Collards | Any |
| Vegetables | Dark green vegetables | Cruciferous | Kale | Any |
| Vegetables | Dark green vegetables | Cruciferous | Mustard greens | Any |
| Vegetables | Dark green vegetables | Cruciferous | Rapini | Any |
| Vegetables | Dark green vegetables | Cruciferous | Turnip greens | Any |
| Vegetables | Dark green vegetables | Cruciferous | Watercress | Any |
| Vegetables | Dark green vegetables | Lettuces | Boston lettuce | Any |
| Vegetables | Dark green vegetables | Lettuces | Escarole | Any |
| Vegetables | Dark green vegetables | Lettuces | Leaf lettuce | Green |
| Vegetables | Dark green vegetables | Lettuces | Leaf lettuce | Red |
| Vegetables | Dark green vegetables | Lettuces | Lollo lettuce | Green |
| Vegetables | Dark green vegetables | Lettuces | Lollo lettuce | Red |
| Vegetables | Dark green vegetables | Lettuces | Microgreens | Any |
| Vegetables | Dark green vegetables | Lettuces | Romaine lettuce | Any |
| Vegetables | Dark green vegetables | Mixed vegetables | Salad mix | Any |
| Vegetables | Dark green vegetables | Mixed vegetables | Salad mix | Mesclun mix |
| Vegetables | Dark green vegetables | Mixed vegetables | Salad mix | Spring mix |
| Vegetables | Dark green vegetables | Other leafy greens | Chard | Any |
| Vegetables | Dark green vegetables | Other leafy greens | Spinach | Any |
| Vegetables | Dark green vegetables | Other leafy greens | Swiss chard | Any |
| Vegetables | Other vegetables | Beans/peas | Green beans | Any |
| Vegetables | Other vegetables | Beans/peas | Peapods | Snap |
| Vegetables | Other vegetables | Beans/peas | Peapods | Snow |
| Vegetables | Other vegetables | Beets | Beets | Any |
| Vegetables | Other vegetables | Cruciferous | Brussels sprouts | Any |
| Vegetables | Other vegetables | Cruciferous | Cabbage | Green |
| Vegetables | Other vegetables | Cruciferous | Cabbage | Red |
| Vegetables | Other vegetables | Cruciferous | Cauliflower | Any |
| Vegetables | Other vegetables | Cruciferous | Radishes | Any |
| Vegetables | Other vegetables | Cruciferous | Rutabagas | Any |
| Vegetables | Other vegetables | Cruciferous | Turnips | Any |
| Vegetables | Other vegetables | Lettuces | Iceberg lettuce | Any |
| Vegetables | Other vegetables | Lettuces | Other lettuce | Any |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Any |

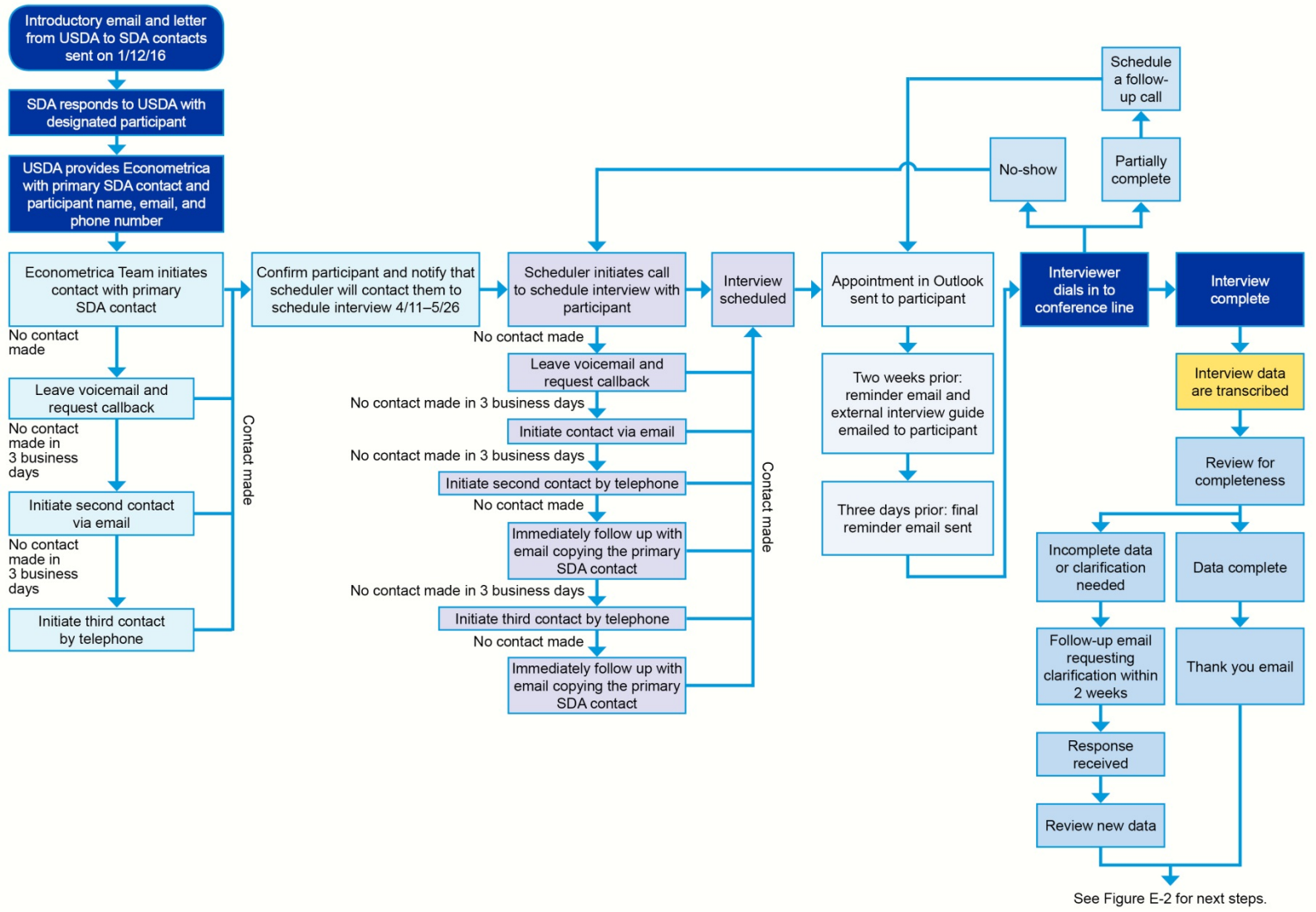
| Commodity Group | Commodity Subgroup | Family Group | Food Group | Variety Group |
|---|---|---|---|---|
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Broccoli/cauliflower |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Broccoli/tomatoes |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Cabbage/carrots |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Carrots/broccoli |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Chop Suey mix |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Coleslaw |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Creole mix |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Fajita mix |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Peas/Carrots |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Peppers/green beans |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Soup mix |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Stew mix |
| Vegetables | Other vegetables | Mixed vegetables | Mixed vegetables | Stir fry mix |
| Vegetables | Other vegetables | Mixed vegetables | Salad mix | Any |
| Vegetables | Other vegetables | Mixed vegetables | Salad mix | Kale mix |
| Vegetables | Other vegetables | Mixed vegetables | Salad mix | Romaine mix |
| Vegetables | Other vegetables | Onions | Garlic | Any |
| Vegetables | Other vegetables | Onions | Leeks | Any |
| Vegetables | Other vegetables | Onions | Onions | Any |
| Vegetables | Other vegetables | Onions | Onions | Cipolini |
| Vegetables | Other vegetables | Onions | Onions | Jumbo |
| Vegetables | Other vegetables | Onions | Onions | Red |
| Vegetables | Other vegetables | Onions | Onions | Scallions |
| Vegetables | Other vegetables | Onions | Onions | Spanish |
| Vegetables | Other vegetables | Onions | Onions | Vidalia |
| Vegetables | Other vegetables | Onions | Onions | White |
| Vegetables | Other vegetables | Onions | Onions | Yellow |
| Vegetables | Other vegetables | Other vegetables | Alfalfa | Any |
| Vegetables | Other vegetables | Other vegetables | Asparagus | Any |
| Vegetables | Other vegetables | Other vegetables | Avocados | Any |

| Commodity Group | Commodity Subgroup | Family Group | Food Group | Variety Group |
|---|---|---|---|---|
| Vegetables | Other vegetables | Other vegetables | Bean sprouts | Any |
| Vegetables | Other vegetables | Other vegetables | Celery | Any |
| Vegetables | Other vegetables | Other vegetables | Cucumbers | Any |
| Vegetables | Other vegetables | Other vegetables | Cucumbers | Climbing |
| Vegetables | Other vegetables | Other vegetables | Cucumbers | English |
| Vegetables | Other vegetables | Other vegetables | Cucumbers | Seedless |
| Vegetables | Other vegetables | Other vegetables | Eggplant | Any |
| Vegetables | Other vegetables | Other vegetables | Ginger | Any |
| Vegetables | Other vegetables | Other vegetables | Mushrooms | Any |
| Vegetables | Other vegetables | Other vegetables | Mushrooms | Brown |
| Vegetables | Other vegetables | Other vegetables | Mushrooms | Portobello |
| Vegetables | Other vegetables | Peppers | Hot peppers | Any |
| Vegetables | Other vegetables | Peppers | Sweet peppers | Green |
| Vegetables | Other vegetables | Peppers | Sweet peppers | Mixed color |
| Vegetables | Other vegetables | Peppers | Sweet peppers | Yellow |
| Vegetables | Other vegetables | Squash | Summer squash | Gray |
| Vegetables | Other vegetables | Squash | Summer squash | Green |
| Vegetables | Other vegetables | Squash | Summer squash | Spaghetti |
| Vegetables | Other vegetables | Squash | Summer squash | Yellow |
| Vegetables | Other vegetables | Squash | Summer squash | Zucchini |
| Vegetables | Other vegetables | Squash | Winter squash | Banana |
| Vegetables | Other vegetables | Squash | Winter squash | Hubbard |
| Vegetables | Red and orange vegetables | Mixed vegetables | Mixed vegetables | Carrots/red Peppers |
| Vegetables | Red and orange vegetables | Mixed vegetables | Mixed vegetables | Carrots/yams |
| Vegetables | Red and orange vegetables | Mixed vegetables | Mixed vegetables | Tomatoes/carrots |
| Vegetables | Red and orange vegetables | Other vegetables | Tomatoes | Any |
| Vegetables | Red and orange vegetables | Other vegetables | Tomatoes | Grape/cherry |
| Vegetables | Red and orange vegetables | Other vegetables | Tomatoes | Plum/Roma |
| Vegetables | Red and orange vegetables | Peppers | Sweet peppers | Orange |
| Vegetables | Red and orange vegetables | Peppers | Sweet peppers | Red |

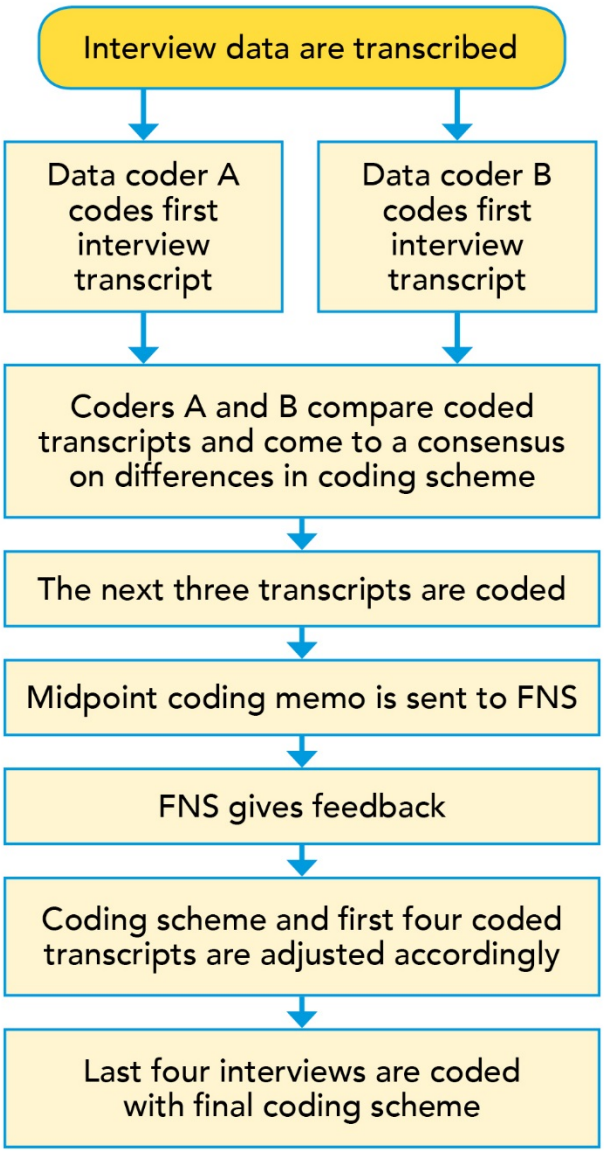
| Commodity Group | Commodity Subgroup | Family Group | Food Group | Variety Group |
|---|---|---|---|---|
| Vegetables | Red and orange vegetables | Root vegetables | Carrots | Any |
| Vegetables | Red and orange vegetables | Root vegetables | Sweet potatoes | Any |
| Vegetables | Red and orange vegetables | Root vegetables | Yams | Any |
| Vegetables | Red and orange vegetables | Root vegetables | Yams | Orange |
| Vegetables | Red and orange vegetables | Root vegetables | Yams | White |
| Vegetables | Red and orange vegetables | Squash | Winter squash | Acorn |
| Vegetables | Red and orange vegetables | Squash | Winter squash | Any |
| Vegetables | Red and orange vegetables | Squash | Winter squash | Butternut |
| Vegetables | Red and orange vegetables | Squash | Winter squash | Calabaza |
| Vegetables | Red and orange vegetables | Squash | Winter squash | Pumpkin |
| Vegetables | Starchy vegetables | Beans/peas | Green peas | Any |
| Vegetables | Starchy vegetables | Beans/peas | Lima beans | Any |
| Vegetables | Starchy vegetables | Other starchy vegetables | Corn | Any |
| Vegetables | Starchy vegetables | Root vegetables | Jicama | Any |
| Vegetables | Starchy vegetables | Root vegetables | Parsnips | Any |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | Any |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | Baking |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | Batata |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | Fingerling |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | Idaho |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | Red |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | Russet |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | Tricolor |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | White |
| Vegetables | Starchy vegetables | Root vegetables | White potatoes | Yukon gold |

# Appendix E: Overview of Interview Data Collection and Coding Process

## Figure E.1. Overview of the Data Collection Process



## Figure E.2. Data Coding Process



# Appendix F: Evaluation Interview Data Codebook

**Table F.1. Evaluation Interview Data Codebook**

| Code | Definition |
|---|---|
| **State Participation** | |
| Motivation | Motivations for participating in the Pilot; motivating factors for State participation. |
| Expected Benefits | Expectations of the potential benefits of the Pilot to the State or SFAs. |
| Startup Challenges | Challenges during startup. |
| **SFA Participation** | |
| SFA Selection Participation | Process to select SFAs to participate, including selection criteria, who was involved in the process, challenges in the selection process, and solutions to challenges. Details of the quality and quantity of SFA participation. Changes in SFA participation. Challenges in participation and how challenges were addressed. |
| **Vendor Participation** | |
| Vendor Outreach and Challenges | Process of recruiting and reaching out to vendors, onboarding process for vendors. Challenges vendors' experience to achieve or maintain eligibility for the Pilot and how those issues were reconciled. Discontinuations of purchasing from vendors including reasons that result from certifications and audits. |
| Procurement With Vendor | How SDAs, SFAs, or schools conduct outreach to eligible vendors to request bids, factors emphasized in procurement when evaluating vendors' bids and making the final selection of vendors, reasons for not selecting vendors, and selection and justification of new vendors over time. |
| **Entitlement Funding** | |
| Allocation of Funds | Factors in deciding how much USDA entitlement funds to allocate to the Pilot, amount of entitlement funding dedicated to unprocessed fruits and vegetables, changes in amounts of entitlement spending and reasons for changes, and impact of the Pilot on State's ability to use at least 95 percent of entitlement funds for the school year. |
| Administrative Costs | The effect of the Pilot on administrative costs. How States handled administrative cost issues and staff time. |
| Product Pricing | SDAs' impressions of how pricing differs between eligible Pilot-participating vendors and other vendors, and how prices from eligible Pilot vendors affected the budgeting and the amount of local unprocessed fruits and vegetables actually purchased under the Pilot. |
| **Purchases** | |
| Purchasing Process and Decision Factors | The process an SDA/SFA/school goes through to purchase through the Pilot. Any details about how this differs from USDA Foods/USDA DoD Fresh/commercial mechanisms. Factors in decisions about which fruits and vegetables to purchase under the Pilot. |
| Purchasing Benefits | Benefits in procurement of fruits and vegetables through the Pilot. Impact of the Pilot on the amount or variety of fruits and vegetables purchased from within the State. |
| Purchasing Challenges | Challenges in procurement of fruits and vegetables through the Pilot that do not include a lack of vendors. These challenges include identifying vendors on the eligible vendor list that will deliver to a particular school. |
| Local Foods | Definition of "local" for the Pilot, use of geographic preference for purchasing prior to the Pilot and for which products, and impact of Pilot on purchase of local fruits and vegetables. |

| Code | Definition |
|---|---|
| **Food Use** | |
| Challenges in Food Use | Challenges using purchased fruits and vegetables during the Pilot. |
| Impact and Benefits on Food Use | Impact of the Pilot on the ability to implement the new meal pattern in schools and conduct school food service in the State, the ability to use purchased products |
| **Perceived Benefits and Other Impressions** | |
| Perceived Benefits of the Pilot to the SDA | Overarching benefits of the Pilot experienced by the State agency. |
| Perceived Challenges of the Pilot to the SDA | Overarching challenges of the Pilot to the State agency. In particular challenges that will prevent the Pilot from growing into a full program. Systems-level problems. |
| Comparative Impressions | Impressions about USDA Foods/USDA DoD Fresh/Pilot/commercial mechanisms in their ability to facilitate access to fruits and vegetables, local fruits and vegetables, and unprocessed fruits and vegetables, including purchasing varieties of fruits and vegetables and food use to meet National School Lunch Program standards. |
| **Technical Assistance** | |
| Technical Assistance | Topics that could be addressed in future technical assistance. Usefulness and timeliness of technical assistance that was provided to SDAs during the Pilot. Areas for improvement. |

# Appendix G: Telephone Interview Guides

## G.1. Year One

**EVALUATION OF THE USDA PILOT PROJECT FOR THE PROCUREMENT OF UNPROCESSED FRUITS AND VEGETABLES**
**State Distributing Agency Contact Interview Questions**
**Year One**

1. **Motivation for participating in the pilot.**
    a. Tell me what led to the State's decision to apply to participate in the unprocessed fruits and vegetables procurement pilot.
    b. What expectations did you have going into the pilot about the potential benefits it could provide to your State and to the participating school food authorities (SFAs)?

2. **Selecting SFAs to participate in the pilot.**
    a. What was the process to select the SFAs to participate in the pilot?
    b. Who was involved in the selection process?
    c. What challenges, if any, did you face during the selection process? What did you do to address these challenges?
    d. What kind of participation issues, if any, have you experienced since you selected the SFAs?
    e. What was done to address these issues?

3. **Performing outreach to interested vendors and working with them to supply produce.**
    a. Does the procurement take place at the SFA level?
    b. According to the Vendor/State Distributing Agency (SDA) Report, your SFAs began accepting deliveries in [Month/Year]. Is that right?
    c. When requesting bids from eligible vendors, what vendor and product aspects were important for you to communicate in the request?
    d. Were there procurements from new or different eligible vendors over time? **IF YES,** tell me about that. Why were new vendors needed or desired?
    e. Did your State (or participating SFAs) discontinue purchasing from any vendor in School Year (SY) 2014–2015 from whom you had purchased before? **IF YES,** tell me about that. What kinds of procurement and/or delivery challenges have you and/or participating SFAs experienced during the pilot? Are these challenges different from what you experienced before the pilot?
    f. What procurement training, if any, have you provided to participating SFAs?

4. **Decisions on how much U.S. Department of Agriculture (USDA) entitlement and State administrative funds should be spent through the pilot.**
   There is no cap on the amount of USDA entitlement funds that can be used to procure unprocessed fruits and vegetables, as long as the State does not exceed its total USDA Foods entitlement allotment for each school year.

   a. What considerations played a role in deciding how much of the USDA entitlement funds should be allocated for purchase of unprocessed fruits and vegetables through the pilot?

   b. How much money was spent as administrative costs under the pilot in SY 2014–2015? How were your administrative costs and staff time affected by the pilot?

   c. How much entitlement did you dedicate to the pilot?

   d. Did your State (or participating SFAs) change the amount of USDA entitlement funds spent on unprocessed fruits and vegetables over time? **IF YES,** how so (started spending more/less)? Tell me what led to that change.

   e. **If procurement happens at the State level:** How would you compare the prices from eligible, participating vendors for the unprocessed fruits and vegetables under the pilot with other unprocessed fruits and vegetables? With other local fruit and vegetable purchases at the State and SFA levels?

      i. If locally grown fruits and vegetables cost more than similar products obtained from outside the local area, to what extent did you purchase them during the pilot? How does that compare to what you did before the pilot?

   f. **If procurement takes place at the SFA level:** Have you received any feedback on procurement from the participating SFAs about the price of items? **IF YES,** what did participating SFAs think of the prices from eligible, participating vendors for the unprocessed fruits and vegetables under the pilot as compared with unprocessed fruits and vegetables purchased outside of the pilot? With other local fruit and vegetable purchases at the State and SFA levels?

      i. If locally grown fruits and vegetables cost more than similar products obtained from outside the local area, to what extent did participating SFAs purchase them during the pilot? How does that compare to what they did before the pilot?

   g. How did the produce price from eligible vendors affect the amount of local unprocessed fruits and vegetables purchased at the State (or SFA) levels under the pilot?

   h. Has the pilot increased or decreased your ability to use at least 95 percent of your USDA Foods entitlement funds for the SY 2014–2015? How and why? Is this a change from former years?

**5. Deciding what fruits and vegetables to purchase.**

a. How did you (or participating SFAs) decide which fruits and vegetables to purchase from those eligible to supply produce under the pilot?

b. Were you able to procure all of the unprocessed fruits and vegetables you wanted from the pilot? Why or why not?

   i. **IF YES:**

      1) What kinds of benefits in produce availability have you experienced via the pilot (e.g., more variety of local produce, eligible vendors are reliable in delivering the products in ordered quantity and variety but at lower prices, availability of fresher produce)?

   ii. **IF NO:**

      1) Did such challenges in produce availability exist prior to the pilot and continue through the pilot (e.g., seasonal availability, local producers not producing)?

      2) What kinds of new challenges in produce availability have you experienced via the pilot (e.g., hard to find suppliers, local items not available from approved vendors, no variety, hard to get information about product availability, issues getting local vendors on the eligible vendor list (due to Good Agricultural Practices and other food safety certification requirements, etc.))?

c. Has the pilot resulted in changes in the variety (e.g., Gala apples vs. Fuji apples), the type (e.g., apples, oranges, pears), or the quantity of unprocessed fruit and vegetable purchases from within your State (intra-State purchases)? **IF YES,** what are those changes?

d. How did you adjust the mix (quantity, variety) of produce purchased from the USDA Foods Available List, U.S. Department of Defense (DOD) Fresh Fruit and Vegetable Program, and the pilot?

   i. Did you stop ordering any produce in SY 2014–2015 from the USDA Foods Available List that you had ordered previously? Which products? Did you replace these products or substitute them with another product? Did you purchase these products via the pilot instead?

   ii. Did you alter the ordering of non-fruit and vegetable items from the USDA Foods Available List? **IF YES,** which ones?

   iii. Did you stop ordering any produce in SY 2014–2015 from DOD Fresh that you had ordered previously? Which products? Did you replace these products or substitute them with another product? Did you purchase these products via the pilot instead?

   iv. **[If procurement is at the State level]:** How did SFAs react to this change ordering patterns?

e. Has the pilot impacted your State's (or participating SFAs') ability to get the quantity, type, and variety of fruits and vegetables for use in the National School Lunch Program that it wants or needs? **IF YES,** why and how?

f. Do SFAs differ in their preferences on types and varieties of fruits and vegetables they want from the pilot? How do you accommodate these preferences?

   i. Are each SFA's preferences different from those before the pilot?

**6. Procurement of local foods.**

a. How does your State or most districts in your State define "local" as it relates to the procurement of unprocessed fruits and vegetables (e.g., same city/county, produced within a geographic radius, produced within the State or a specific region)?

b. Did you (or your SFAs) use a geographic preference for purchasing local unprocessed fruits and vegetables prior to the pilot? **IF YES,** for which products?

   i. What barriers were there to procuring local products in your State and districts prior to the pilot?

   ii. What strategies did you and your SFAs use to address these barriers prior to the pilot?

   iii. How did the pilot affect your and your SFAs' purchase of local unprocessed fruits and vegetables?

c. Do you have quantitative data on intra-State unprocessed fruit and vegetable purchases before and during the pilot using commercial sources other than the current pilot project, USDA Foods, and DOD Fresh? **IF YES,** please send us a copy of these data. After this interview, I will email you my contact information and a request for these data.

d. How does the pilot program compare to the other commercial mechanisms that you used or you would have used to procure unprocessed fruits and vegetables (not limited to local produce), before the pilot?

e. What are your overall impressions of USDA Foods, DOD Fresh, and the pilot in their ability to facilitate access to fruits and vegetables? Local fruits and vegetables? Unprocessed fruits and vegetables?

f. Did your State (or did your participating SFAs) make any changes to unprocessed fruit and vegetable procurements under the pilot throughout SY 2014–2015? What are they and why?

**7. Fruit and vegetable use in schools.**

a. How would you compare the unprocessed fruits and vegetables actually delivered to schools with the product originally requested by schools? I am interested in understanding the types, variety, and quantities requested versus delivered to each school.

b. Thinking about the fruits and vegetables that were delivered to each school, how would you characterize the ability of schools to use these fruits and vegetables to prepare school meals?

c. How would you describe the impact of the pilot on the school's ability to meet the school meal standards?

    i. How does the pilot compare to USDA Foods or DOD Fresh in this regard?

d. What kinds of challenges have you (or participating SFAs) experienced with regard to being able to procure the unprocessed fruits and vegetables the schools wanted (e.g., desired vendors not able to meet Good Agricultural Practices or other food safety requirements, cost, product rotation)?

e. What advantages have you experienced in your schools with regard to being able to use unprocessed fruits and vegetables under the pilot (e.g., getting ordered items in a timely manner, do not need to procure and store produce long before needing to use them because of the timely delivery, more produce variety for broader food menu choices)?

f. What kinds of challenges have you experienced in your schools with regard to being able to use unprocessed fruits and vegetables under the pilot (e.g., lack of kitchen equipment or food service workers to process/prepare unprocessed foods, produce spoilage, unconventional-looking produce that kids do not want to eat)?

**8. Perceived benefits and challenges of participating in the pilot.**

a. Have the State and participating SFAs benefited from the pilot? **If YES,** how? **IF NO,** why not?

b. What are some challenges you and SFAs experienced from the pilot? Did you have any challenges in startup?

c. Are there any benefits or challenges related to the unprocessed fruit and vegetable pilot that we have not discussed? **IF YES,** please describe them.

d. Would you recommend participation in the pilot to other States? Why or why not?

e. Has the pilot impacted your State's perception of the USDA Foods Program? How?

f. Would you like to see the pilot expanded?

**9. Technical assistance.**

a. What topics did your State and SFAs need technical assistance in? Are there additional technical assistance topics that would be helpful to your State and SFAs?

b. Was USDA helpful in providing technical assistance as needed and in a timely manner? Explain. If not, how could they improve?

## G.2. Year Two

**EVALUATION OF THE USDA PILOT PROJECT FOR THE PROCUREMENT OF UNPROCESSED FRUITS AND VEGETABLES**

**State Distributing Agency Participant Interview Questions**
**Internal Guide**
**Year Two**

1. **SFA participation and selection.**

   I would like to start this conversation by discussing SFAs[63] that have participated in the Pilot to date.

   a. Since the beginning of the Pilot, have there been any changes in the SFAs participating in the Pilot?

      i. **Probe:**

         1) **For SFAs that have left:** Why did these SFAs decide to leave the Pilot?

         2) **For SFAs that have stayed:** Why do you think these SFAs continued with the Pilot?

         3) **For SFAs that have joined:** What motivation did new SFAs have for joining the Pilot? How did you decide which new SFAs to allow into the Pilot? Did your process or criteria for selecting SFAs change from what it was at startup? Were there any challenges in the process of deciding which SFAs to allow into the Pilot? **If so,** what were the challenges?

   b. In the first year of the Pilot, not all of the SFAs that signed up for the Pilot received deliveries.[64] Did all of the participating SFAs in your State receive deliveries last school year (SY 2015–2016)? What percentage of participating SFAs are receiving deliveries this school year (SY 2016–2017)?

      i. **Probe:**

         1) **If not all of the SFAs received deliveries SY 2015–2016 and SY 2016–2017):** What barriers are preventing SFAs from receiving deliveries? Have a higher percentage of participating SFAs received deliveries this year than in the previous two school years?

[63] When customizing the guide, the interviewer will replace the term SFA with the appropriate terminology for the State. In year one, SDA respondents used recipient agencies, schools, consortia, and buying groups to describe the organizations participating in the Pilot.

[64] All States that began the Pilot in year one (SY 2014–2015) had SFAs that did not receive deliveries in year one. For the three States that delayed Pilot implementation until SY 2015–2016, Econometrica will use SY 2015–2016 quantitative data to tailor the question appropriately.

a) **If so,** what made it easier for SFAs to receive deliveries? Has there been a change in vendors that made it easier to receive deliveries?

2) **If all of the SFAs received deliveries:** By when did all of your SFAs receive their first delivery? Did something change to facilitate the process of all SFAs receiving deliveries? **If so,** what has changed? Did the vendors change?

c. Have you experienced any issues maintaining participation of specific types (**Probe:** such as rural or urban, larger or smaller, more or less participation in farm to school programs, or any others) of SFAs in the pilot?

i. **If so,** please describe. How have you addressed these issues?

d. Has the Pilot been more or less advantageous for some SFAs than others? For example, for larger or smaller SFAs, rural or urban SFAs, SFAs that participate in DoD or SFAs that do not, or SFAs with a larger portion of students eligible for free or reduced lunch? **If so,** why?

**2. Vendor outreach and participation.**

Now let's talk about the process you or your partnering State agency used to perform outreach to interested vendors. If this process is conducted by the participating SFAs, feel free to share any feedback you may have received from them.

a. What strategies has your State used to recruit vendors into the Pilot?

i. **Probe:**

1) Has your recruitment strategy changed from Year One (SY 2014–2015) to Year Two (SY 2015–2016) and Year Three (SY 2016–2017)? **If so,** how? Why did you change your strategy? What do you do differently now than you did a year ago? How did you decide on this strategy?

2) Have you partnered with other agencies or partners to reach out to vendors? **If so,** which agencies or partners?

3) Which strategies have been most successful in vendor recruitment? Which have been less successful?

a) What reasons have vendors provided for not wanting to join the Pilot?

4) Going forward, do you plan to recruit more vendors into the Pilot? **If so,** what are your plans?

b. Since the first year of the Pilot, have vendors joined or stopped selling produce through the Pilot? **If so:**

i. **For new vendors:**

1) What reasons have vendors provided for wanting to join the Pilot?

2) Were any of the vendors that entered the Pilot project new to K–12 food systems and deliveries? **If so,** do you know what motivated them to begin working with schools?

ii. **For vendors that have stopped delivering:** What reasons have vendors provided for no longer selling produce under the Pilot? Has this changed over time?

c. Have you had vendors that began but did not complete the Agricultural Marketing Service, or AMS, approval process? **If so,** what reasons have vendors provided for not completing the process?

d. Is there particular guidance vendors need to successfully go through the process? **If so,** what type of guidance or support would be most beneficial? Does your State provide this guidance?

e. Do you feel that there are a sufficient number of vendors servicing your State for the Pilot? **If not,** why not?

**3. Spending decisions: U.S. Department of Agriculture, or USDA, entitlement and State administrative funds.**

a. Which agency or level of government was responsible for deciding the amount of USDA entitlement funds allocated for purchases through the Pilot?

b. What considerations played a role in this decision? Did these considerations change over time? **If so,** how?

c. Did your State (or participating SFAs) change the amount of USDA entitlement funds allocated to the Pilot for the purchase of unprocessed fruits and vegetables from Year One of the Pilot (SY 2014–2015) through the current school year?

i. **If yes:** How so (started allocating and/or spending more or less) and why?

d. Did the Pilot affect your State's ability to use at least 95 percent of your USDA Foods entitlement funds last school year? How about so far in this school year? How and why?

e. How were administrative costs and staff time at the SDA and SFAs affected by the Pilot? To better understand the cost and impact of the Pilot, do you have any information on administrative costs of the Pilot that you could share?

**4. Procurement.**

The purpose of the next set of questions is to learn more about the procurement process used by SFAs for the Pilot and how, if at all, the process differs from commercial procurement. Later we will talk about purchasing.

a. In general, what is the process SFAs use to solicit bids from Pilot vendors?

i. Which agencies are responsible for procurement for the Pilot in your State (e.g., SDA, SFA, consortia, buying group, sponsor, school, school food management company)?

1) Is there variation in types of agencies across the State that conduct procurement for the Pilot? If yes, please describe.

2) What percentage of SFAs do their own procurement for the Pilot? Are more SFAs doing procurement for the Pilot than for commercial contracts? Please explain.

ii. Does the process differ for commercial procurement? **If so,** how does it differ?

1) Are the same agencies responsible for commercial procurement?

2) Does procurement for commercial contracts and the Pilot take place at the same time? If not, does procurement for the Pilot take place less often or more often than for commercial contracts?

b. When requesting bids from eligible Pilot vendors, what vendor and product aspects were important for SFAs to communicate in the request?

i. Have SFAs changed the requirements in their solicitations for the Pilot in Years Two (SY 2015–2016) and Three (SY 2016–2017)?

ii. How did "local" produce factor into the procurement process under the Pilot? Was this an important factor to consider for SFAs? **If so,** why? Did your SFAs use geographic preference when soliciting bids under the pilot? **If so,** how did they apply geographic preference?

iii. What other specifications were important to SFAs in the contract development process (e.g., delivery schedule, price of items, vendor-provided education for schools on Unprocessed Fruits and Vegetables)?

c. Does the seasonality of certain fruits and vegetables impact the procurement process? **If so,** how?

d. In the first year of the Pilot, SDA respondents indicated that some Pilot vendors had preexisting commercial contracts with participating SFAs for unprocessed fruits and vegetables that were converted by changing the payment clause in the contract. Did this happen in your State?

**i. If yes:** What percentage of the participating SFAs converted existing commercial contracts into Pilot contracts? Did these SFAs also engage new vendors in contracts for the Pilot?

e. Did your SFAs procure items from new eligible vendors under the Pilot over time?

i. **If not,** why not?

ii. **If yes,** tell me about that. Why were new vendors needed or desired?

**5. Unprocessed fruit and vegetable purchases.**

The next questions are about the purchasing process and actual purchases made through the Pilot. Please include any feedback you may have received from the SFAs or schools.

a. Please describe the general process for ordering through the Pilot.

i. **Probe:**

1) Which agencies or who is responsible for purchasing through the Pilot? Is that the same across the State? **If not**, how does it vary?

2) Are orders placed in a computer system for all vendors? Are some orders placed over the phone?

3) What proportion of participating SFAs purchase through USDA Foods? What proportion of participating SFAs purchase through U.S. Department of Defense, or DoD, Fresh?

4) Is ordering through the Pilot different from ordering from USDA Foods, DoD Fresh, and/or commercial vendors? **If so,** how is it different?

b. Have SFAs experienced new challenges in purchasing through the Pilot this year and last year? If yes, please describe. (Examples: hard-to-find vendors, local items not available from approved vendors, no variety, hard-to-get information about product availability, issues getting local vendors on the eligible vendor list (due to Good Agricultural Practices and other food safety certification requirements, etc.)).

i. Has seasonality impacted purchases through the Pilot? **If so,** how?

1) **Probe:** Does it impact DoD Fresh or commercial purchases in the same way? Why or why not?

2) Did challenges in seasonality and produce availability exist prior to the Pilot and continue through the Pilot?

c. Now I would like to talk about the purchase of "local" produce. When we spoke last year, you reported that your State did not mandate a particular definition of "local" and your SFAs defined "local" as ____? Has this changed in SY 2015–2016 or SY 2016–2017 **If so,** please explain.

According to the DoD Fresh program, "local" produce are fruits and vegetables that come from your State or the States bordering your State. For the rest of the interview, please use this definition when considering the questions.

d. Did the participating SFAs use the Pilot to buy locally sourced products?

i. If not, why?

ii. If yes:

1) Do the SFAs in your State buy only local products through the Pilot?

2) When buying locally sourced produce, was it important to SFAs that produce was *grown* locally or just that it was *processed* (bagged, chopped, etc.) locally? Do SFAs differentiate between the two?

3) Do SFAs in general differ in their preference for local food? **If yes,** is there a difference between SFAs that are or are not participating in the Pilot? **If yes,** why?

4) Were local items priced differently than non-local items? **If so,** how?

5) If locally grown fruits and vegetables were costlier than the other options, to what extent did participating SFAs purchase them during the Pilot and why?

The next questions are about the impacts of the Pilot on fruit and vegetable purchases in Years Two and Three (SY 2015–2016 and SY 2016–2017).

e. Has the Pilot caused changes in the type (e.g., apples, oranges, pears) of produce purchased? **If yes,** what are those changes?

f. Has the Pilot caused changes in the variety (e.g., Gala apples vs. Fuji apples) of unprocessed fruit and vegetable purchases? **If yes,** what are those changes?

g. Has the Pilot caused changes in the quantity of produce purchased? **If yes,** what are those changes?

h. Has the Pilot caused a change in the form of the produce purchased (e.g., whole, chopped, bagged, canned)? For example, did SFAs purchase unprocessed produce from the Pilot that they purchased previously in canned form? **If yes,** please describe these changes.

i. As a result of the Pilot, did SFAs decrease or stop ordering any particular type of produce from USDA Foods, DoD Fresh, or commercial vendors that they had ordered previously? **If yes,** which products, why, and when?

j. Were there aspects of the Pilot that caused a shift in the products purchased over time? **If so,** please describe. Are SFAs able to purchase as much unprocessed fruits and vegetables as they want or need through the Pilot? What about all of the local unprocessed fruits and vegetables they want? Why or why not?

   i. How did SFAs meet their produce needs before the Pilot—through USDA Foods, DoD Fresh, or commercial contracts?

   ii. What produce needs are not being met and why? (Examples: geographic constraints, vendors are not approved for enough items, there are too few vendors, seasonality, access to vendors, vendors are not approved for the right type of products as in bulk and not cut products.)

      1) How are these needs being met, if not through the Pilot—through USDA Foods, DoD Fresh, or commercial contracts?

k. Were SFAs able to purchase a greater proportion of their total fruits and vegetables through the Pilot over time? Did they purchase more produce in Year Two (SY 2015–2016) than in Year One (SY 2014–2015)? In Year Three (SY 2016–2017) than in Year Two?

l. Did the Pilot result in changes in the decision-making process that SFAs use to purchase fruits and vegetables? **If yes,** how so?

6. **Fruit and vegetable use in schools.**

   Now let's talk about the use of fruits and vegetables purchased under the Pilot in schools. This includes your observations and the feedback you may have received from the SFAs.

   a. How would you characterize the ability of schools to use Pilot fruit and vegetable purchases to prepare school meals? (**Consider** storage, equipment to process foods, staff to prepare and serve items containing fruits and vegetables, and ability to integrate fruits and vegetables in school menu planning).

   b. How would you describe the impact of the Pilot on the schools' ability to meet Federal school meal pattern requirements?

      i. **Probe:** Did it make it easier for schools to serve the required amount of fruits and vegetables; serve items that students liked; increase consumption of fruits and vegetables; increase satisfaction of students and parents?

      ii. How does the Pilot compare to USDA Foods or DoD Fresh in this regard?

   c. Are there advantages of Pilot participation to schools in terms of food use? **If yes,** please describe.

   d. Are there disadvantages or challenges in Pilot participation in terms of food use?

7. **Overall impressions and perceived benefits and challenges of participating in the Pilot.**

   a. What are your overall impressions of USDA Foods, DoD Fresh, and the Pilot in their ability to facilitate access to unprocessed fruits and vegetables? How does each program compare?

      i. Local fruits and vegetables?

   b. Does the Pilot provide opportunities for SFAs to purchase unprocessed fruits and vegetables that were not previously available to them? **If so,** please describe.

   c. What are the biggest (or most influential) changes that have happened in the Pilot in the last year and a half (either through changes within your State or at the national level)?

   d. Have the State and participating SFAs and schools benefited from the Pilot?

      i. **If yes,** how? What kinds of benefits have participating SFAs experienced under the Pilot (Examples: access to increased variety of local produce, availability of fresher produce, increased flexibility in ordering or delivery schedules, increased control over ordering, timely delivery, ability to purchase local, do not need to store produce long before use, broader food menu choices)?

      ii. **If no,** why not?

   e. Are there any benefits or challenges related to the unprocessed fruit and vegetable Pilot that we have not discussed? **If yes,** please describe them.

   f. Has the Pilot met your or your agency's expectations? Why or why not?

g. Would you recommend participation in the Pilot to other States? Why or why not?

h. Has the Pilot impacted your or your agency's perception of the USDA Foods program? **If yes,** how?

i. Would you like to see the Pilot expanded, either within your State or to other States across the country? Why or why not? **If so,** in what capacity?

j. What changes, if any, do you think would make the Pilot more impactful or successful if it were to continue into future years?

**8. Technical assistance.**

a. In what topics did your State and SFAs require technical assistance in Years Two and Three (SY 2015–2016 and 2016–2017)? Are there additional technical assistance topics or guidance that would be helpful to your State and SFAs? **If so,** please describe.

b. Was USDA helpful in providing technical assistance as needed and in a timely manner? Explain. **If not,** how could they improve?

# Appendix H: Quantity of Pilot Fruits and Vegetables by State and Year

**Table H.1. Total Quantity in Pounds of Pilot Fruits and Vegetables by State and Year**

| | Fruits SY 2014–2015 (lbs) | Fruits SY 2015–2016 (lbs) | Total Fruits (lbs) | Vegetables SY 2014–2015 (lbs) | Vegetables SY 2015–2016 (lbs) | Total Vegetables (lbs) |
|---|---|---|---|---|---|---|
| California | 177,970.0 | 886,024.9 | 1,063,994.9 | 49,014.0 | 135,845.5 | 184,859.5 |
| Connecticut | 135,652.0 | 436,095.5 | 571,747.5 | 438.0 | 69,113.0 | 69,551.0 |
| Michigan | 153,232.0 | 417,273.5 | 570,505.5 | 41,248.0 | 185,606.4 | 226,854.4 |
| New York | 17,640.0 | 1,676,154.6 | 1,693,794.6 | 11,766.9 | 687,675.6 | 699,442.5 |
| Oregon | 86,936.0 | 411,156.0 | 498,092.0 | 18,844.5 | 79,963.5 | 98,808.0 |
| Virginia | N/A | 112,483.5 | 112,483.5 | N/A | 2,383.0 | 2,383.0 |
| Washington | N/A | 216,158.5 | 216,158.5 | N/A | 99,827.0 | 99,827.0 |
| Wisconsin | N/A | 219,967.5 | 219,967.5 | N/A | 154,885.6 | 154,885.6 |
| **Grand Total** | **571,430.0** | **4,375,314.0** | **4,946,744.0** | **121,311.4** | **1,415,299.7** | **1,536,611.1** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.

# Appendix I: Percentage of Entitlement Funds Spent on Unprocessed Fruits and Vegetables Through USDA Foods Programs by State, 2013–2016

**Figure I.1. Percent of Entitlement Spent on Each Program by Year in California**

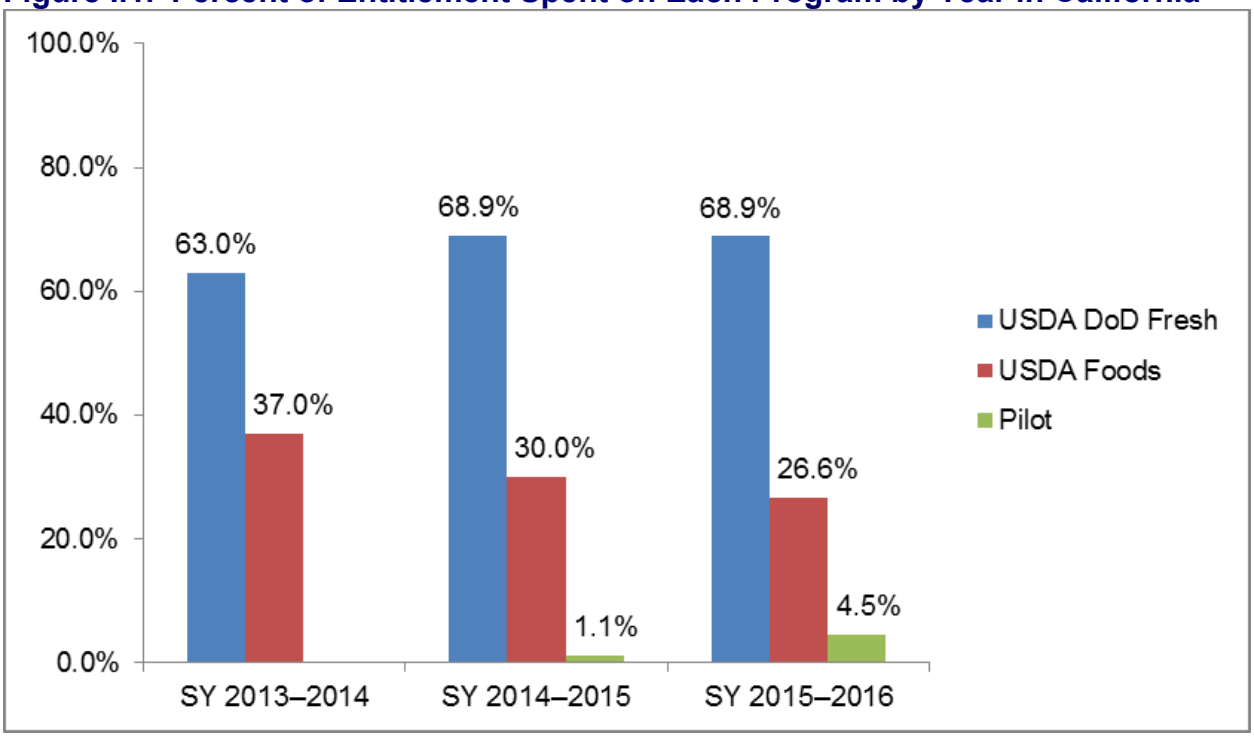
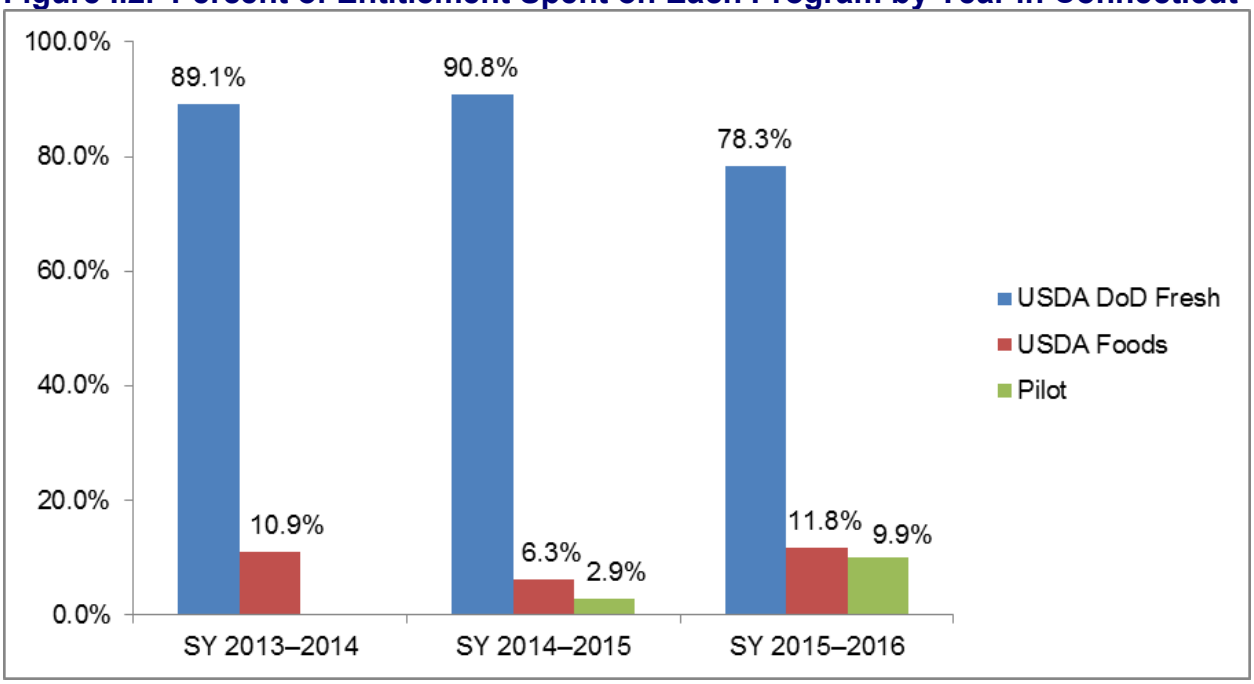
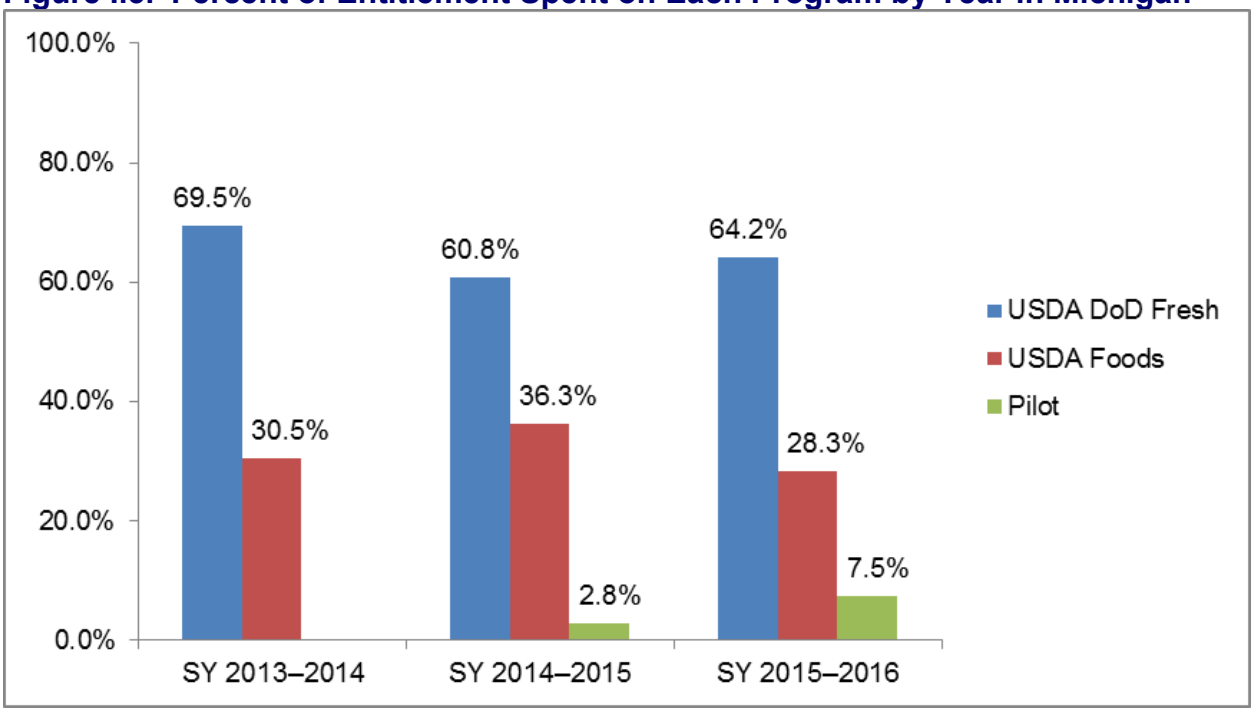


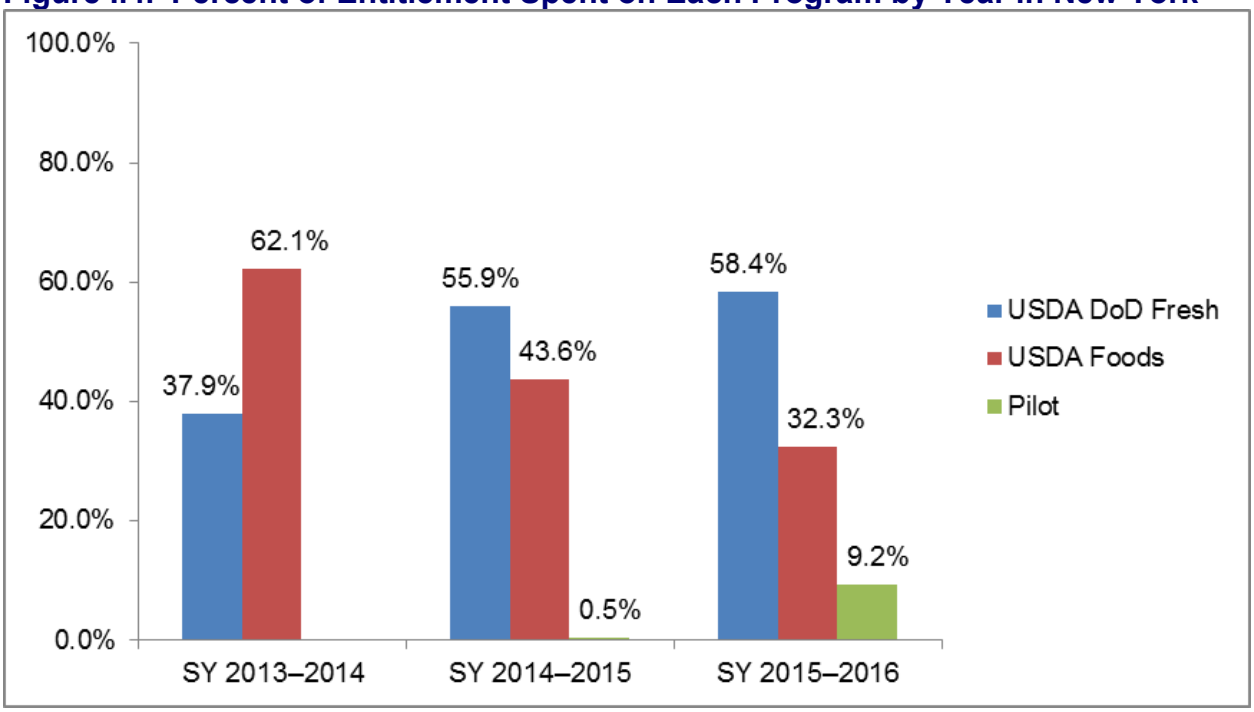

**Figure I.2. Percent of Entitlement Spent on Each Program by Year in Connecticut**



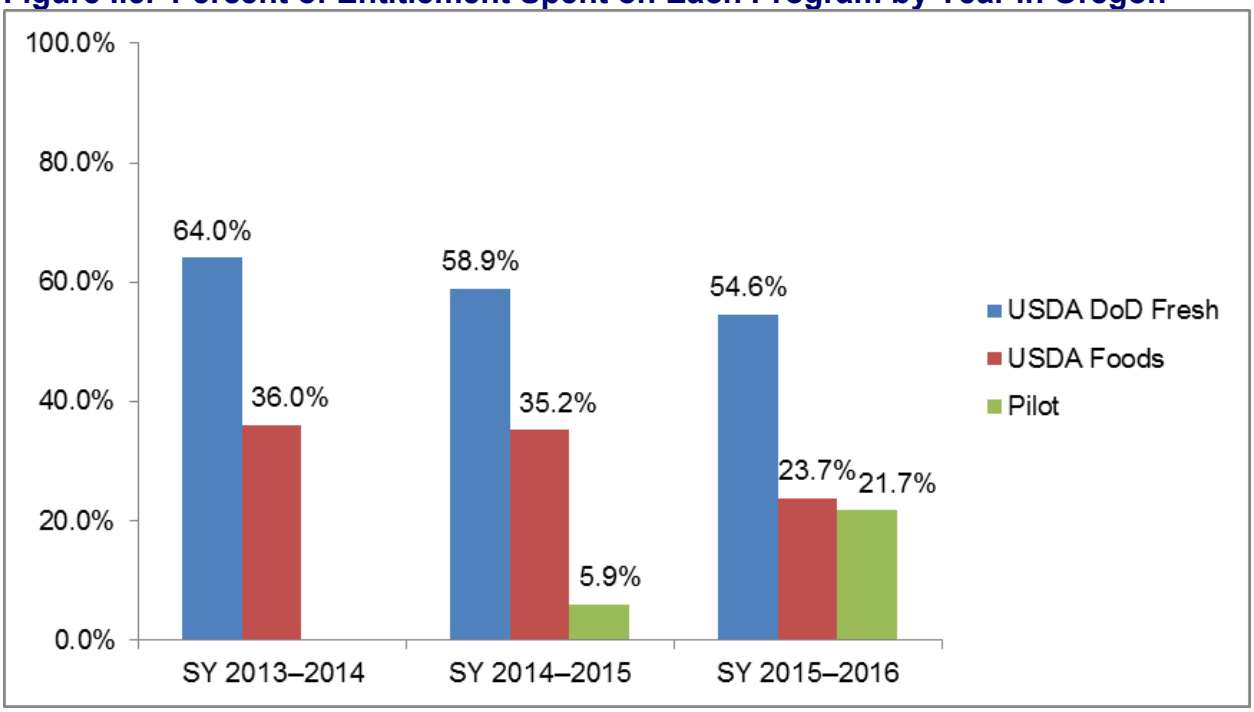
## Figure I.3. Percent of Entitlement Spent on Each Program by Year in Michigan



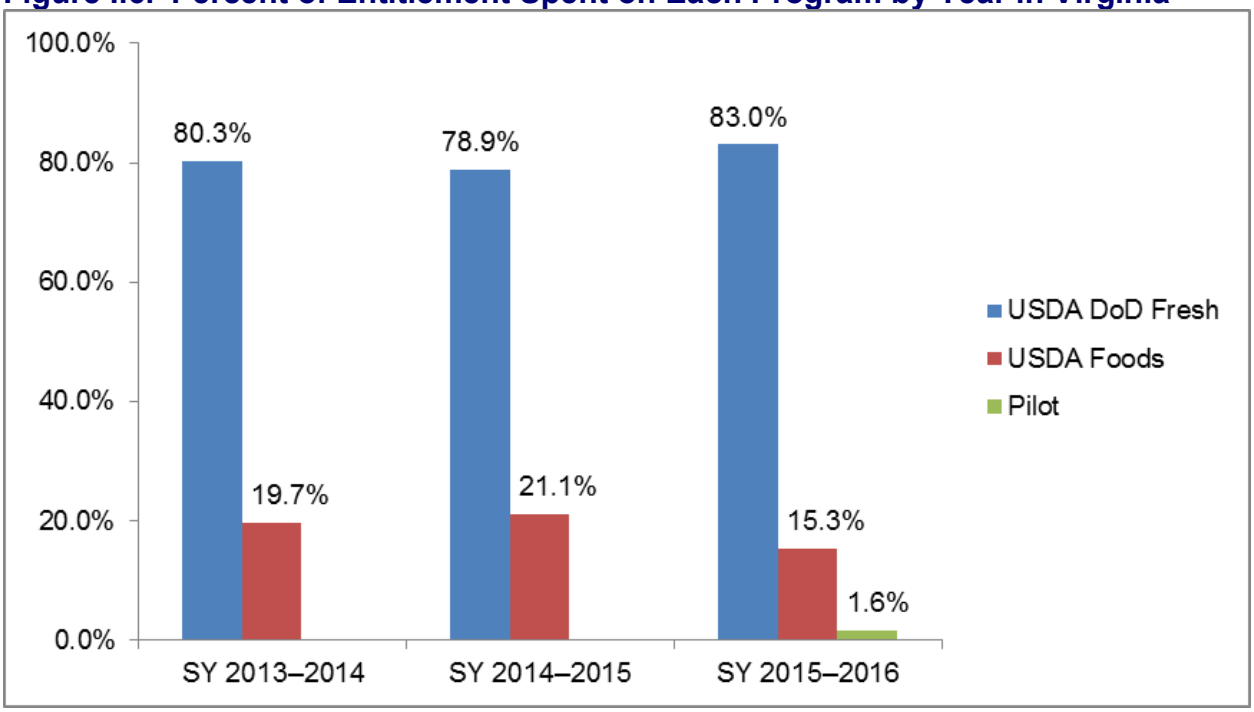

## Figure I.4. Percent of Entitlement Spent on Each Program by Year in New York



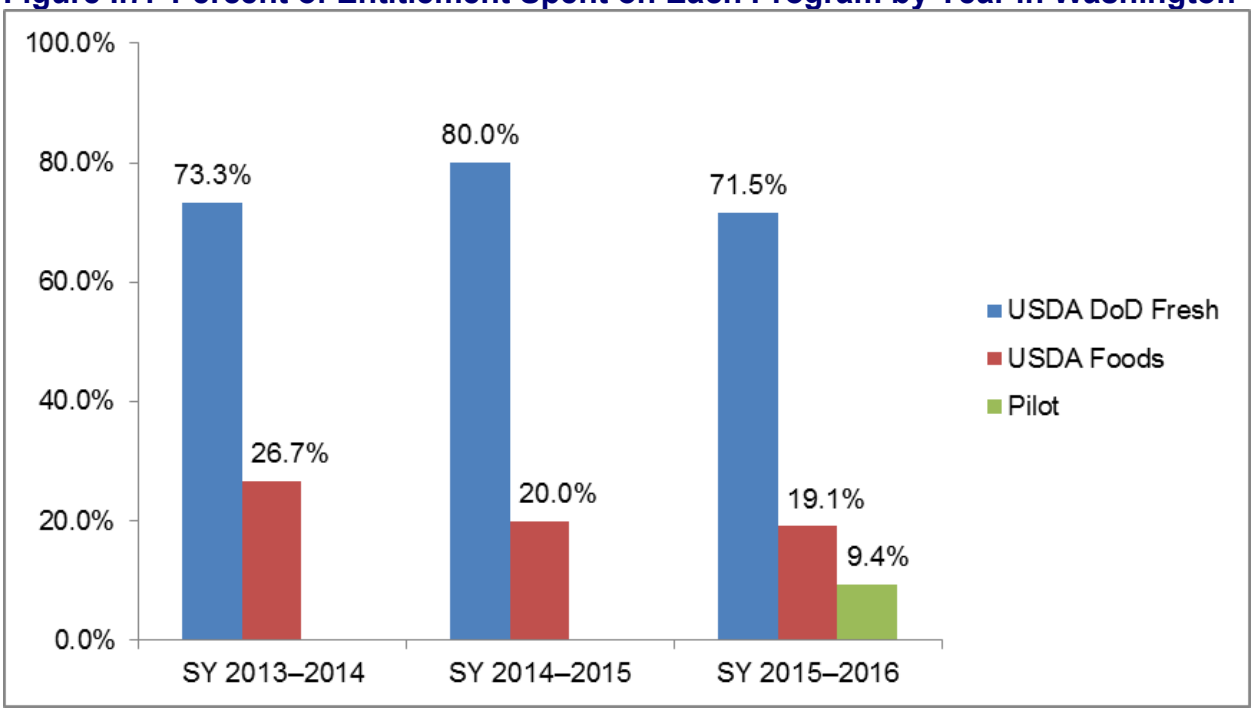
## Figure I.5. Percent of Entitlement Spent on Each Program by Year in Oregon



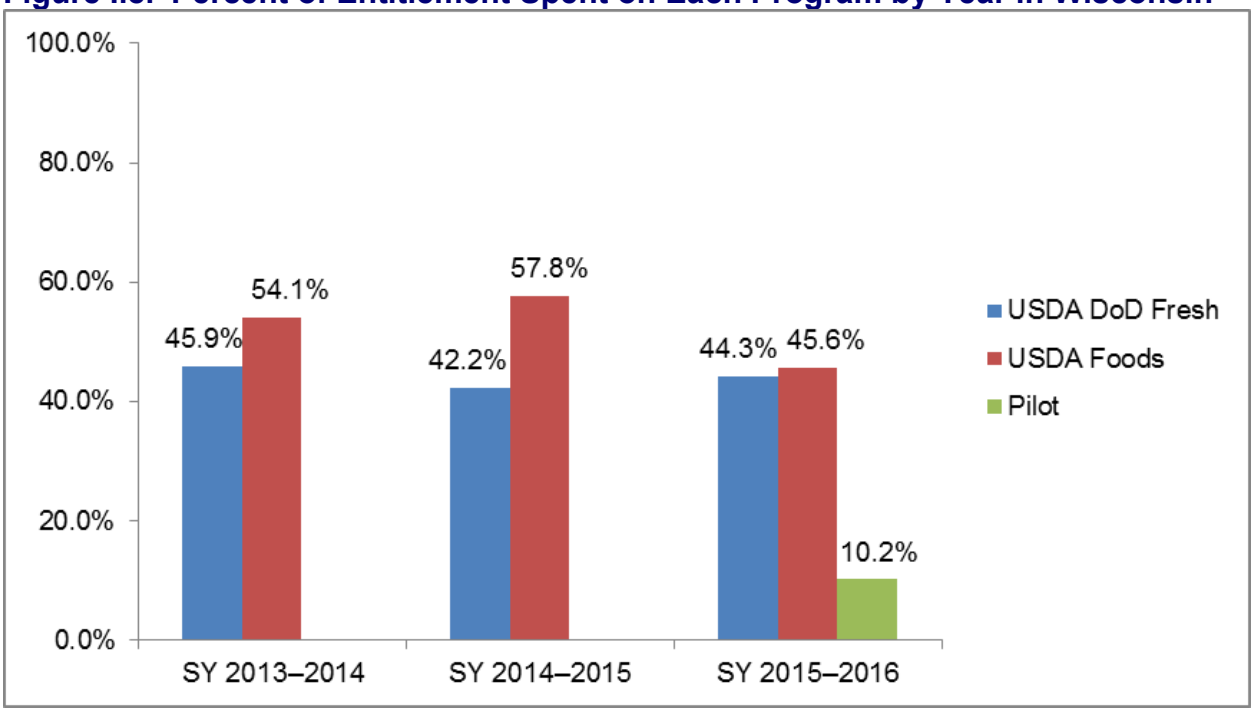

## Figure I.6. Percent of Entitlement Spent on Each Program by Year in Virginia



## Figure I.7. Percent of Entitlement Spent on Each Program by Year in Washington




## Figure I.8. Percent of Entitlement Spent on Each Program by Year in Wisconsin



# Appendix J: Total Amount Spent Through the Pilot by Type of Produce and State

## Table J.1. Total Amount Spent Through the Pilot by Type of Produce and State, SY 2014–2015 and SY 2015–2016

| Category | CA | CT | MI | NY | OR | VA | WA | WI | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Fruits** | **$877,070.11** | **$425,152.09** | **$530,582.85** | **$962,002.47** | **$280,082.55** | **$115,194.92** | **$340,346.58** | **$225,507.77** | **$3,755,939.34** |
| **Berries** | **$117,425.77** | **$33,886.10** | | **$2,113.50** | | **$7,543.47** | | **$3,695.30** | **$164,664.13** |
| Blackberries | | | | | | $3,549.88 | | | $3,549.88 |
| Blueberries | $63.30 | | | $374.57 | | | | $1,139.78 | $1,577.65 |
| Cranberries | | | | | | | | $28.45 | $28.45 |
| Kiwi | $35,022.31 | | | | | | | | $35,022.31 |
| Raspberries | | | | $465.51 | | $3,993.59 | | | $4,459.10 |
| Strawberries | $82,340.16 | $33,886.10 | | $1,273.42 | | | | $2,527.07 | $120,026.74 |
| **Citrus** | **$185,419.97** | **$20,033.85** | **$49,913.33** | **$134,985.24** | | **$2,136.32** | **$372.60** | **$20,010.85** | **$412,872.16** |
| Mandarin oranges | $32,631.46 | | | | | | | | $32,631.46 |
| Oranges | $114,568.55 | $20,033.85 | $49,913.33 | $134,985.24 | | $1,856.36 | $372.60 | $20,010.85 | $341,740.78 |
| Tangelos | $38,219.96 | | | | | $279.96 | | | $38,499.93 |
| **Melons** | **$15,850.24** | **$7,400.71** | | **$45,263.26** | **$559.24** | | **$43.00** | | **$69,116.46** |
| Cantaloupe | $93.32 | $2,472.56 | | $12,368.14 | | | $43.00 | | $14,977.02 |
| Honeydew | | $1,521.49 | | | | | | | $1,521.49 |
| Watermelon | $15,756.92 | $3,406.67 | | $32,895.12 | $559.24 | | | | $52,617.95 |
| **Core fruits** | **$230,428.24** | **$312,307.11** | **$480,669.52** | **$778,402.14** | **$279,523.31** | **$100,225.11** | **$339,681.90** | **$201,801.62** | **$2,723,038.94** |
| Apples | $135,768.16 | $225,288.83 | $480,669.52 | $778,376.52 | $154,929.42 | $93,699.00 | $336,980.43 | $189,777.95 | $2,395,489.83 |
| Asian pears | $20,095.75 | | | | | $2,419.95 | | | $22,515.70 |
| Pears | $74,564.33 | $87,018.28 | | $25.62 | $124,593.89 | $4,106.16 | $2,701.46 | $12,023.67 | $305,033.41 |
| **Grapes** | **$41,116.77** | **$17,958.37** | | **$1,238.33** | | | **$249.09** | | **$60,562.55** |
| Grapes | $19,839.46 | $17,958.37 | | $1,238.33 | | | $249.09 | | $39,285.25 |
| Raisins | $21,277.31 | | | | | | | | $21,277.31 |
| **Other fruits** | **$1,795.51** | | | | | | | | **$1,795.51** |
| Persimmon | $1,749.17 | | | | | | | | $1,749.17 |
| Pineapples | $46.34 | | | | | | | | $46.34 |
| **Stone fruits** | **$285,033.62** | **$33,565.95** | | | | **$5,290.03** | | | **$323,889.60** |
| Apricots | $29,750.78 | | | | | | | | $29,750.78 |

| Category | CA | CT | MI | NY | OR | VA | WA | WI | Total |
|---|---|---|---|---|---|---|---|---|---|
| Nectarines | $103,142.02 | $13,611.24 | | | | | | | $116,753.26 |
| Peaches | $79,239.18 | $14,893.41 | | | | $2,195.80 | | | $96,328.38 |
| Plums | $58,500.50 | $5,061.30 | | | | $3,094.23 | | | $66,656.04 |
| Pluots | $14,401.14 | | | | | | | | $14,401.14 |
| **Vegetables** | **$247,384.10** | **$83,775.35** | **$199,240.37** | **$655,828.93** | **$92,920.38** | **$6,229.87** | **$57,517.74** | **$197,439.30** | **$1,540,336.04** |
| **Dark green vegetables** | **$107,372.88** | **$42,533.02** | **$119,750.10** | **$262,249.23** | **$10,008.65** | **$4,938.47** | **$27,006.94** | **$50,774.37** | **$624,633.67** |
| Arugula | | $1,758.69 | | | $54.89 | $3.66 | | | $1,817.25 |
| Bok choy | | | | | | $4.80 | | | $4.80 |
| Boston lettuce | | | | $6,111.77 | | $1,037.79 | | | $7,149.55 |
| Broccoli | $18,461.28 | $10,079.36 | $2,225.31 | $13,276.91 | $4,487.23 | $50.32 | $11,881.47 | $16,863.84 | $77,325.72 |
| Collards | | | | $16.01 | | | | | $16.01 |
| Escarole | | | | $84.79 | | | | | $84.79 |
| Kale | $2,384.27 | | | $740.62 | $87.83 | $27.45 | $90.38 | | $3,330.55 |
| Leaf lettuce | $1,572.43 | | | $3,257.43 | $54.90 | $1,060.01 | | | $5,944.77 |
| Lollo lettuce | | | | | | $1,734.54 | | | $1,734.54 |
| Microgreens | | | | | | $24.70 | | | $24.70 |
| Mustard greens | | | | | $27.45 | | | | $27.45 |
| Romaine lettuce | $67,655.20 | $27,405.15 | $105,968.77 | $197,460.47 | $4,252.59 | $54.90 | $13,006.82 | $30,355.31 | $446,159.22 |
| Salad mix | $1,926.35 | $3,130.39 | | $14,602.10 | | $360.80 | $222.30 | $132.07 | $20,374.01 |
| Spinach | $14,534.47 | | $11,556.02 | $25,984.42 | $1,043.77 | $329.37 | $1,695.69 | $3,423.15 | $58,566.89 |
| Summer crisp lettuce | | | | | | $235.50 | | | $235.50 |
| Swiss chard | | | | $86.92 | | $7.32 | | | $94.24 |
| Watercress | | $151.19 | | | | | | | $151.19 |
| **Other vegetables** | **$43,662.82** | **$23,249.32** | **$79,490.26** | **$250,039.60** | **$10,103.52** | **$525.39** | **$29,621.76** | **$32,641.78** | **$469,334.45** |
| Asparagus | | | | | | $72.51 | | | $72.51 |
| Beets | | | | $176.80 | $278.13 | | $73.83 | | $528.77 |
| Brussels sprouts | | | | $491.77 | | | | | $491.77 |
| Cabbage | $1,501.19 | $138.15 | | $1,737.92 | $198.32 | | $110.45 | $67.01 | $3,753.03 |
| Cauliflower | $5,937.71 | $7.55 | | $8,173.86 | $2,718.75 | $118.94 | $9,841.11 | $12,492.99 | $39,290.92 |
| Celery | $13,535.15 | $107.41 | | $13,753.54 | | | $41.40 | | $27,437.50 |

| Category | CA | CT | MI | NY | OR | VA | WA | WI | Total |
|---|---|---|---|---|---|---|---|---|---|
| Cucumbers | | $3,606.82 | | $42,896.02 | $548.95 | $205.86 | $38.20 | | $47,295.85 |
| Eggplant | | | | $543.62 | | | | | $543.62 |
| Garlic | | | | $556.27 | | | | | $556.27 |
| Green beans | | | | $287.88 | | | | $365.43 | $653.30 |
| Iceberg lettuce | $4,545.77 | | | $3,916.32 | | | | | $8,462.10 |
| Leeks | | | | $53.98 | | | | | $53.98 |
| Mixed vegetables | $226.01 | | | $20.21 | | | $0.00 | $2,493.86 | $2,740.08 |
| Mushrooms | | $1,391.35 | | | | | | | $1,391.35 |
| Onions | $436.21 | $869.17 | | $10,759.94 | | | | $150.96 | $12,216.28 |
| Other lettuce | $494.97 | $203.80 | $26,968.32 | $39,334.50 | $929.52 | | $2,122.87 | $9,117.85 | $79,171.83 |
| Radishes | | | | $339.86 | | $18.30 | | | $358.16 |
| Salad mix | $15,902.68 | $3,312.90 | $52,521.94 | $105,754.44 | $1,740.92 | $109.79 | $17,369.74 | $7,953.68 | $204,666.08 |
| Summer squash | | $5,379.46 | | $4,710.28 | $49.41 | | | | $10,139.14 |
| Sweet peppers | $1,083.13 | $8,229.96 | | $16,471.11 | $3,639.52 | | $24.15 | | $29,447.87 |
| Turnips | | | | $10.98 | | | | | $10.98 |
| **Red and orange vegetables** | **$96,348.39** | **$17,872.71** | | **$131,344.54** | **$72,584.06** | **$133.58** | **$850.98** | **$110,751.14** | **$429,885.40** |
| Carrots | $95,794.72 | $894.33 | | $16,027.83 | $66,507.20 | $45.75 | $554.78 | $36,842.74 | $216,667.33 |
| Mixed vegetables | | | | | | | | $64,072.51 | $64,072.51 |
| Sweet peppers | | $2,795.53 | | $10,433.66 | $625.80 | | $46.66 | $70.64 | $13,972.30 |
| Sweet potatoes | | | | $97.88 | | | | | $97.88 |
| Tomatoes | $553.68 | $14,182.85 | | $100,561.09 | $5,220.50 | $87.83 | $249.54 | $9,676.77 | $130,532.25 |
| Winter squash | | | | $4,224.09 | $230.56 | | | $88.49 | $4,543.14 |
| **Starchy vegetables** | | **$120.31** | | **$12,195.56** | **$224.15** | **$632.43** | **$38.06** | **$3,272.00** | **$16,482.52** |
| Corn | | $16.47 | | $942.86 | | | | $810.42 | $1,769.75 |
| White potatoes | | $103.84 | | $11,252.69 | $224.15 | $632.43 | $38.06 | $2,461.58 | $14,712.77 |
| **Grand Total** | **$1,124,454.21** | **$508,927.44** | **$729,823.22** | **$1,617,813.10** | **$373,002.93** | **$121,424.79** | **$397,864.32** | **$422,947.07** | **$5,296,257.08** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: “Other lettuces” are shredded and whole lettuces without a specific variety identified in the product description.

# Appendix K: Top-Ranking Pilot Fruits and Vegetables by State and Year

### Table K.1. Top-Ranking Pilot Fruits and Vegetables by Year, California

| Rank | Type of Produce | % of Pilot Spending SY 2014–2015 | Type of Produce | % of Pilot Spending SY 2015–2016 |
|---|---|---|---|---|
| 1 | Nectarines | 24.7% | Apples | 14.8% |
| 2 | Oranges | 15.3% | Oranges | 9.0% |
| 3 | Apricots | 10.3% | Strawberries | 8.9% |
| 4 | Peaches | 10.1% | Carrots | 8.6% |
| 5 | Carrots | 8.3% | Pears | 7.6% |
| 6 | Pluots | 5.7% | Romaine lettuce | 6.7% |
| 7 | Salad Mix | 3.4% | Peaches | 6.4% |
| 8 | Asian pears | 3.2% | Plums | 5.8% |
| 9 | Watermelons | 2.9% | Nectarines | 5.7% |
| 10 | Romaine lettuce | 2.8% | Tangelos | 4.2% |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.

### Table K.2. Top-Ranking Pilot Fruits and Vegetables by Year, Connecticut

| Rank | Type of Produce | % of Pilot Spending SY 2014–2015 | Type of Produce | % of Pilot Spending SY 2015–2016 |
|---|---|---|---|---|
| 1 | Apples | 54.7% | Apples | 41.7% |
| 2 | Pears | 43.8% | Pears | 10.4% |
| 3 | Nectarines | 0.7% | Strawberries | 8.3% |
| 4 | Peaches | 0.5% | Romaine lettuce | 6.7% |
| 5 | Sweet potatoes | 0.2% | Oranges | 4.9% |
| 6 | Tomatoes | 0.1% | Grapes | 4.4% |
| 7 | Summer squash | 0.1% | Peaches | 3.5% |
| 8 | N/A | | Tomatoes | 3.5% |
| 9 | N/A | | Nectarines | 3.2% |
| 10 | N/A | | Sweet potatoes | 2.7% |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.

## Table K.3. Top-Ranking Pilot Fruits and Vegetables by Year, Michigan

| Rank | Type of Produce | % of Pilot Spending SY 2014–2015 | Type of Produce | % of Pilot Spending SY 2015–2016 |
|---|---|---|---|---|
| 1 | Apples | 71.2% | Apples | 64.0% |
| 2 | Romaine lettuce | 9.2% | Romaine lettuce | 16.3% |
| 3 | Oranges | 9.0% | Salad Mix | 7.8% |
| 4 | Salad Mix | 5.5% | Oranges | 6.1% |
| 5 | Other lettuces | 3.0% | Other lettuces | 3.9% |
| 6 | Spinach | 2.0% | Spinach | 1.4% |
| 7 | N/A | | Broccoli | 0.4% |
| 8 | N/A | | N/A | |
| 9 | N/A | | N/A | |
| 10 | N/A | | N/A | |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: “Other lettuces” are shredded and whole lettuces without a specific variety identified in the product description.

## Table K.4. Top-Ranking Pilot Fruits and Vegetables by Year, New York

| Rank | Type of Produce | % of Pilot Spending SY 2014–2015 | Type of Produce | % of Pilot Spending SY 2015–2016 |
|---|---|---|---|---|
| 1 | Apples | 36.5% | Apples | 48.3% |
| 2 | Romaine lettuce | 19.5% | Romaine lettuce | 12.1% |
| 3 | Salad Mix | 15.5% | Oranges | 8.4% |
| 4 | Other lettuces | 7.6% | Salad Mix | 7.3% |
| 5 | Spinach | 5.8% | Tomatoes | 6.2% |
| 6 | Tomatoes | 4.2% | Cucumbers | 2.7% |
| 7 | Oranges | 4.0% | Other lettuces | 2.4% |
| 8 | Cucumbers | 1.1% | Watermelons | 2.1% |
| 9 | White potatoes | 0.9% | Sweet potatoes | 1.7% |
| 10 | Boston lettuce | 0.8% | Spinach | 1.5% |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: “Other lettuces” are shredded and whole lettuces without a specific variety identified in the product description.

## Table K.5. Top-Ranking Pilot Fruits and Vegetables by Year, Oregon

| Rank | Type of Produce | % of Pilot Spending SY 2014–2015 | Type of Produce | % of Pilot Spending SY 2015–2016 |
|---|---|---|---|---|
| 1 | Pears | 57.7% | Apples | 47.3% |
| 2 | Apples | 21.0% | Pears | 26.6% |
| 3 | Carrots | 18.0% | Carrots | 17.8% |
| 4 | Cauliflower | 1.0% | Tomatoes | 1.8% |
| 5 | Broccoli | 0.8% | Sweet potatoes | 1.5% |
| 6 | Salad Mix | 0.6% | Romaine lettuce | 1.4% |
| 7 | Romaine lettuce | 0.3% | Broccoli | 1.3% |
| 8 | Spinach | 0.2% | Cauliflower | 0.6% |
| 9 | Other lettuces | 0.2% | Salad Mix | 0.4% |
| 10 | Cabbage | <0.1% | Spinach | 0.3% |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: “Other lettuces” are shredded and whole lettuces without a specific variety identified in the product description.

## Table K.6. Top-Ranking Pilot Fruits and Vegetables, Virginia

| Rank | Type of Produce | % of Pilot Spending SY 2015–2016 |
|---|---|---|
| 1 | Apples | 77.2% |
| 2 | Pears | 3.4% |
| 3 | Raspberries | 3.3% |
| 4 | Blackberries | 2.9% |
| 5 | Plums | 2.5% |
| 6 | Asian pears | 2.0% |
| 7 | Peaches | 1.8% |
| 8 | Oranges | 1.5% |
| 9 | Lollo lettuce | 1.4% |
| 10 | Leaf lettuce | 0.9% |

Source: Pilot Vendor/SDA Reports, SY 2015–2016.

## Table K.7. Top-Ranking Pilot Fruits and Vegetables, Washington

| Rank | Type of Produce | % of Pilot Spending SY 2015–2016 |
|---|---|---|
| 1 | Apples | 84.7% |
| 2 | Salad Mix | 4.4% |
| 3 | Romaine lettuce | 3.3% |
| 4 | Broccoli | 3.0% |
| 5 | Cauliflower | 2.5% |
| 6 | Pears | 0.7% |
| 7 | Other lettuces | 0.5% |
| 8 | Spinach | 0.4% |
| 9 | Carrots | 0.1% |
| 10 | Oranges | 0.1% |

Source: Pilot Vendor/SDA Reports, SY 2015–2016.
Note: "Other lettuces" are shredded and whole lettuces without a specific variety identified in the product description.

## Table K.8. Top-Ranking Pilot Fruits and Vegetables, Wisconsin

| Rank | Type of Produce | % of Pilot Spending SY 2015–2016 |
|---|---|---|
| 1 | Apples | 44.9% |
| 2 | Mixed vegetables | 15.7% |
| 3 | Carrots | 8.7% |
| 4 | Romaine lettuce | 7.2% |
| 5 | Oranges | 4.7% |
| 6 | Broccoli | 4.0% |
| 7 | Cauliflower | 3.0% |
| 8 | Pears | 2.8% |
| 9 | Tomatoes | 2.3% |
| 10 | Other lettuces | 2.2% |

Source: Pilot Vendor/SDA Reports, SY 2015–2016.
Note: "Other lettuces" are shredded and whole lettuces without a specific variety identified in the product description.

# Appendix L: Total Amount Spent Through the Pilot by Type and Form of Produce and State

## Table L.1. Total Amount Spent Through the Pilot by Type and Form of Fruit and State, SY 2014–2015 and SY 2015–2016

| Category | CA | CT | MI | NY | OR | VA | WA | WI | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Dried** | **$21,277.31** | | | | | | | | **$21,277.31** |
| **Grapes** | **$21,277.31** | | | | | | | | **$21,277.31** |
| Raisins | | | | | | | | | |
| **Fresh cut** | **$12,471.77** | | **$345,943.84** | **$134,257.24** | **$1,540.30** | **$30,507.77** | **$284,919.59** | **$172,262.28** | **$981,902.79** |
| **Core fruits** | **$12,425.43** | | **$345,943.84** | **$134,257.24** | **$1,540.30** | **$30,507.77** | **$284,919.59** | **$172,262.28** | **$981,856.45** |
| Apples | $12,425.43 | | $345,943.84 | $134,257.24 | $1,540.30 | $30,507.77 | $284,919.59 | $172,262.28 | $981,856.45 |
| **Other fruits** | **$46.34** | | | | | | | | **$46.34** |
| Pineapples | $46.34 | | | | | | | | $46.34 |
| **Fresh whole** | **$843,321.03** | **$425,152.09** | **$184,639.01** | **$827,745.24** | **$278,542.24** | **$84,687.15** | **$55,426.99** | **$52,077.25** | **$2,751,591.01** |
| **Berries** | **$117,425.77** | **$33,886.10** | | **$2,113.50** | | **$7,543.47** | | **$2,527.07** | **$163,495.89** |
| Blackberries | | | | | | $3,549.88 | | | $3,549.88 |
| Blueberries | $63.30 | | | $374.57 | | | | | $437.87 |
| Kiwi | $35,022.31 | | | | | | | | $35,022.31 |
| Raspberries | | | | $465.51 | | $3,993.59 | | | $4,459.10 |
| Strawberries | $82,340.16 | $33,886.10 | | $1,273.42 | | | | $2,527.07 | $120,026.74 |
| **Citrus** | **$185,419.97** | **$20,033.85** | **$49,913.33** | **$134,985.24** | | **$2,136.32** | **$372.60** | **$20,010.85** | **$412,872.16** |
| Mandarin oranges | $32,631.46 | | | | | | | | $32,631.46 |
| Oranges | $114,568.55 | $20,033.85 | $49,913.33 | $134,985.24 | | $1,856.36 | $372.60 | $20,010.85 | $341,740.78 |
| Tangelos | $38,219.96 | | | | | $279.96 | | | $38,499.93 |
| **Melons** | **$15,850.24** | **$7,400.71** | | **$45,263.26** | **$559.24** | | **$43.00** | | **$69,116.46** |
| Cantaloupe | $93.32 | $2,472.56 | | $12,368.14 | | | $43.00 | | $14,977.02 |
| Honeydew | | $1,521.49 | | | | | | | $1,521.49 |
| Watermelons | $15,756.92 | $3,406.67 | | $32,895.12 | $559.24 | | | | $52,617.95 |
| **Core fruits** | **$218,002.81** | **$312,307.11** | **$134,725.68** | **$644,144.90** | **$277,983.00** | **$69,717.33** | **$54,762.31** | **$29,539.34** | **$1,741,182.49** |
| Apples | $123,342.73 | $225,288.83 | $134,725.68 | $644,119.29 | $153,389.12 | $63,191.23 | $52,060.84 | $17,515.67 | $1,413,633.38 |
| Asian pears | $20,095.75 | | | | | $2,419.95 | | | $22,515.70 |
| Pears | $74,564.33 | $87,018.28 | | $25.62 | $124,593.89 | $4,106.16 | $2,701.46 | $12,023.67 | $305,033.41 |

| Category | CA | CT | MI | NY | OR | VA | WA | WI | Total |
|---|---|---|---|---|---|---|---|---|---|
| Grapes | $19,839.46 | $17,958.37 | | $1,238.33 | | | $249.09 | | $39,285.25 |
| Grapes | $19,839.46 | $17,958.37 | | $1,238.33 | | | $249.09 | | $39,285.25 |
| **Other fruits** | **$1,749.17** | | | | | | | | **$1,749.17** |
| Persimmon | $1,749.17 | | | | | | | | $1,749.17 |
| **Stone fruits** | **$285,033.62** | **$33,565.95** | | | | **$5,290.03** | | | **$323,889.60** |
| Apricots | $29,750.78 | | | | | | | | $29,750.78 |
| Nectarines | $103,142.02 | $13,611.24 | | | | | | | $116,753.26 |
| Peaches | $79,239.18 | $14,893.41 | | | | $2,195.80 | | | $96,328.38 |
| Plums | $58,500.50 | $5,061.30 | | | | $3,094.23 | | | $66,656.04 |
| Pluots | $14,401.14 | | | | | | | | $14,401.14 |
| **Frozen** | | | | | | | | **$1,168.24** | **$1,168.24** |
| **Berries** | | | | | | | | **$1,168.24** | **$1,168.24** |
| Blueberries | | | | | | | | $1,139.78 | $1,139.78 |
| Cranberries | | | | | | | | $28.45 | $28.45 |
| **Grand Total** | **$877,070.11** | **$425,152.09** | **$530,582.85** | **$962,002.47** | **$280,082.55** | **$115,194.92** | **$340,346.58** | **$225,507.77** | **$3,755,939.34** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value.

## Table L.2. Total Amount Spent Through the Pilot by Type and Form of Vegetable and State, SY 2014–2015 and SY 2015–2016

| Category | CA | CT | MI | NY | OR | VA | WA | WI | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Fresh cut** | **$230,872.95** | **$33,352.09** | **$198,942.26** | **$316,907.43** | **$80,471.71** | **$557.51** | **$57,066.27** | **$183,897.26** | **$1,102,067.48** |
| **Dark green vegetables** | **$92,498.54** | **$28,923.00** | **$119,615.35** | **$161,432.74** | **$8,735.65** | **$447.72** | **$27,006.94** | **$50,774.37** | **$489,434.30** |
| Arugula | | $985.36 | | | | | | | $985.36 |
| Broccoli | $18,461.28 | $10,079.36 | $2,090.56 | $5,460.83 | $4,487.23 | | $11,881.47 | $16,863.84 | $69,324.57 |
| Kale | $497.87 | | | | | | $90.38 | | $588.25 |
| Leaf lettuce | $1,487.44 | | | | | | | | $1,487.44 |
| Microgreens | | | | | | $24.70 | | | $24.70 |
| Romaine lettuce | $67,655.20 | $14,727.88 | $105,968.77 | $127,835.83 | $4,197.70 | $54.90 | $13,006.82 | $30,355.31 | $363,802.41 |
| Salad mix | $1,926.35 | $3,130.39 | | $14,602.10 | | $360.80 | $222.30 | $132.07 | $20,374.01 |
| Spinach | $2,470.39 | | $11,556.02 | $13,154.13 | $50.72 | | $1,695.69 | $3,423.15 | $32,350.11 |
| **Other vegetables** | **$42,579.69** | **$3,534.76** | **$79,326.92** | **$145,075.26** | **$5,459.42** | **$109.79** | **$29,504.56** | **$29,657.57** | **$335,247.97** |
| Beets | | | | | | | $60.38 | | $60.38 |
| Cabbage | $1,501.19 | | | $5.00 | $70.23 | | $110.45 | $67.01 | $1,753.87 |
| Cauliflower | $5,937.71 | $7.55 | | $101.86 | $2,718.75 | | $9,841.11 | $12,492.99 | $31,099.97 |
| Celery | $13,535.15 | $7.78 | | | | | | | $13,542.93 |
| Iceberg lettuce | $4,545.77 | | | $378.66 | | | | | $4,924.44 |
| Mixed vegetables | $226.01 | | | $20.21 | | | $0.00 | $26.04 | $272.26 |
| Onions | $436.21 | | | | | | | | $436.21 |
| Other lettuce | $494.97 | $203.80 | $26,804.98 | $38,764.78 | $929.52 | | $2,122.87 | $9,117.85 | $78,438.77 |
| Salad mix | $15,902.68 | $3,312.90 | $52,521.94 | $105,754.44 | $1,740.92 | $109.79 | $17,369.74 | $7,953.68 | $204,666.08 |
| **Red and orange vegetables** | **$95,794.72** | **$894.33** | | **$10,399.43** | **$66,276.64** | | **$554.78** | **$101,003.74** | **$274,923.63** |
| Carrots | $95,794.72 | $894.33 | | $10,320.75 | $66,276.64 | | $554.78 | $36,842.74 | $210,683.95 |
| Mixed vegetables | | | | | | | | $64,072.51 | $64,072.51 |
| Winter squash | | | | $78.68 | | | | $88.49 | $167.17 |
| **Starchy vegetables** | | | | | | | | **$2,461.58** | **$2,461.58** |
| White potatoes | | | | | | | | $2,461.58 | $2,461.58 |
| **Fresh whole** | **$16,511.15** | **$50,423.27** | **$298.11** | **$338,921.50** | **$12,448.67** | **$5,672.36** | **$451.47** | **$9,676.77** | **$434,403.29** |
| **Dark green vegetables** | **$14,874.35** | **$13,610.02** | **$134.76** | **$100,816.48** | **$1,273.01** | **$4,490.75** | | | **$135,199.37** |

| Category | CA | CT | MI | NY | OR | VA | WA | WI | Total |
|---|---|---|---|---|---|---|---|---|---|
| Arugula | | $773.33 | | | $54.89 | $3.66 | | | $831.88 |
| Bok choy | | | | | | $4.80 | | | $4.80 |
| Boston lettuce | | | | $6,111.77 | | $1,037.79 | | | $7,149.55 |
| Broccoli | | | $134.76 | $7,816.07 | | $50.32 | | | $8,001.15 |
| Collards | | | | $16.01 | | | | | $16.01 |
| Escarole | | | | $84.79 | | | | | $84.79 |
| Kale | $1,886.40 | | | $740.62 | $87.83 | $27.45 | | | $2,742.30 |
| Leaf lettuce | $84.99 | | | $3,257.43 | $54.90 | $1,060.01 | | | $4,457.33 |
| Lollo lettuce | | | | | | $1,734.54 | | | $1,734.54 |
| Mustard greens | | | | | $27.45 | | | | $27.45 |
| Romaine lettuce | | $12,677.27 | | $69,624.64 | $54.90 | | | | $82,356.81 |
| Spinach | $12,064.08 | | | $12,830.29 | $993.04 | $329.37 | | | $26,216.78 |
| Summer crisp lettuce | | | | | | $235.50 | | | $235.50 |
| Swiss chard | | | | $86.92 | | $7.32 | | | $94.24 |
| Watercress | | $151.19 | | | | | | | $151.19 |
| **Other vegetables** | **$1,083.13** | **$19,714.55** | **$163.35** | **$104,964.34** | **$4,644.10** | **$415.60** | **$117.20** | | **$131,102.27** |
| Asparagus | | | | | | $72.51 | | | $72.51 |
| Beets | | | | $176.80 | $278.13 | | $13.45 | | $468.39 |
| Brussels sprouts | | | | $491.77 | | | | | $491.77 |
| Cabbage | | $138.15 | | $1,732.92 | $128.09 | | | | $1,999.16 |
| Cauliflower | | | | $8,072.01 | | $118.94 | | | $8,190.94 |
| Celery | | $99.63 | | $13,753.54 | | | $41.40 | | $13,894.57 |
| Cucumbers | | $3,606.82 | | $42,896.02 | $548.95 | $205.86 | $38.20 | | $47,295.85 |
| Eggplant | | | | $543.62 | | | | | $543.62 |
| Garlic | | | | $556.27 | | | | | $556.27 |
| Green beans | | | | $287.88 | | | | | $287.88 |
| Iceberg lettuce | | | | $3,537.66 | | | | | $3,537.66 |
| Leeks | | | | $53.98 | | | | | $53.98 |
| Mushrooms | | $1,391.35 | | | | | | | $1,391.35 |
| Onions | | $869.17 | | $10,759.94 | | | | | $11,629.11 |
| Other lettuce | | | $163.35 | $569.72 | | | | | $733.07 |

| Category | CA | CT | MI | NY | OR | VA | WA | WI | Total |
|---|---|---|---|---|---|---|---|---|---|
| Radishes | | | | $339.86 | | $18.30 | | | $358.16 |
| Summer squash | | $5,379.46 | | $4,710.28 | $49.41 | | | | $10,139.14 |
| Sweet peppers | $1,083.13 | $8,229.96 | | $16,471.11 | $3,639.52 | | $24.15 | | $29,447.87 |
| Turnips | | | | $10.98 | | | | | $10.98 |
| **Red and orange vegetables** | **$553.68** | **$16,978.38** | | **$120,945.12** | **$6,307.42** | **$133.58** | **$296.20** | **$9,676.77** | **$154,891.14** |
| Carrots | | | | $5,707.08 | $230.56 | $45.75 | | | $5,983.39 |
| Sweet peppers | | $2,795.53 | | $10,433.66 | $625.80 | | $46.66 | | $13,901.66 |
| Sweet potatoes | | | | $97.88 | | | | | $97.88 |
| Tomatoes | $553.68 | $14,182.85 | | $100,561.09 | $5,220.50 | $87.83 | $249.54 | $9,676.77 | $130,532.25 |
| Winter squash | | | | $4,145.41 | $230.56 | | | | $4,375.97 |
| **Starchy vegetables** | | **$120.31** | | **$12,195.56** | **$224.15** | **$632.43** | **$38.06** | | **$13,210.52** |
| Corn | | $16.47 | | $942.86 | | | | | $959.33 |
| White potatoes | | $103.84 | | $11,252.69 | $224.15 | $632.43 | $38.06 | | $12,251.19 |
| **Frozen** | | | | | | | | **$3,745.59** | **$3,745.59** |
| **Other vegetables** | | | | | | | | **$2,864.53** | **$2,864.53** |
| Green beans | | | | | | | | $365.43 | $365.43 |
| Mixed vegetables | | | | | | | | $2,348.15 | $2,348.15 |
| Onions | | | | | | | | $150.96 | $150.96 |
| **Red and orange vegetables** | | | | | | | | **$70.64** | **$70.64** |
| Sweet peppers | | | | | | | | $70.64 | $70.64 |
| **Starchy vegetables** | | | | | | | | **$810.42** | **$810.42** |
| Corn | | | | | | | | $810.42 | $810.42 |
| **Unknown** | | | | | | | | **$119.68** | **$119.68** |
| **Other vegetables** | | | | | | | | **$119.68** | **$119.68** |
| Mixed vegetables | | | | | | | | $119.68 | $119.68 |
| **Grand Total** | **$247,384.10** | **$83,775.35** | **$199,240.37** | **$655,828.93** | **$92,920.38** | **$6,229.87** | **$57,517.74** | **$197,439.30** | **$1,540,336.04** |

Source: Pilot Vendor/SDA Reports, SY 2014–2015 and SY 2015–2016.
Note: Based on total dollar value. “Other lettuces” are shredded and whole lettuces without a specific variety identified in the product description.